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December 18, 2008

U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

TDD No: TO2-09-08-07-0005
Project No: 002693.2009.01RF

Attention: Tom Dunkelman, EPA On-Scene Coordinator

Subject: **Anaconda Mine Pond Removal Support**
Old Raffinate Pond Report
Former Anaconda Copper Mine
Yerington, Lyon County, Nevada 92274
Latitude 38.994° North; Longitude 119.198° West

Introduction

In July 2008, the United States Environmental Protection Agency (U.S. EPA) Federal On-Scene Coordinator (FOSC) Tom Dunkelman issued a Technical Directive Document that tasked the Superfund Technical Assessment and Response Team (START) to support U.S. EPA funded removal activities at the Anaconda Mine site in Yerington, Nevada. The support effort was divided into three principal tasks. The first task was to support the excavation activities at the Old Raffinate Pond area with air monitoring, sampling, field analysis, and laboratory analysis. The second task was to perform quality assurance (QA) oversight and conduct QA testing during the installation of a liner system for a Phase I/II Pond. The final task was to conduct intermittent sampling and analysis of soil in bioremediation cells in order to monitor the progress of the soil remediation effort. This letter report summarizes the START activities and presents analytical data associated with the first task only. Tasks 2 and 3 will be addressed in separate reports.

All figures and tables referenced in this document are located in Attachments 1 and 2, respectively. A photographic record of site activities is located in Attachment 3. The laboratory reports are located in Attachment 4.

Background

The former Anaconda Mine is located at 102 Burch Drive, off Highway 95, approximately two miles west of the town of Yerington, Lyon County, Nevada (Figure 1). The geographic coordinates for the site are 38.994° North latitude and 119.198° West longitude. The mine site is bordered to the north by agricultural land, to the east by Highway 95, to the west and southwest by the Singatse mountain range and the town of Weed Heights, and to the south by United States Bureau of Land Management land. The site comprises an area of more than 3,400 acres and includes an open-pit copper mine with ore processing areas, ore stockpiles, tailing stockpiles, and

evaporation ponds spread throughout the site. Mining operations at the site began in approximately 1918 and ceased in 2000.

The former Anaconda Mine site is the focus of ongoing U.S. EPA assessment, remedial, and removal activities. The U.S. EPA removal activity was initiated based on information and data generated between July 30 and August 1, 2007, during TEAM 9 START's assessment of the on-site pond areas (TDD# TO5-09-07-04-0002). The corresponding letter report, dated May 28, 2008, indicated that the soil underlying the currently dry Old Raffinate Pond had petroleum hydrocarbon concentrations that exceeded the investigation level of 100 milligrams per kilogram (mg/kg). The report documented surface soil with petroleum hydrocarbon concentrations at 75,000 mg/kg with subsurface concentrations ranging between 3,400 and 7,300 mg/kg to a depth of up to 23 feet below pond bottom.

In mid-2008, following the TEAM 9 assessment, the U.S. EPA initiated the excavation and bioremediation of petroleum hydrocarbon contaminated soil beneath the Old Raffinate Pond. The excavation was performed by the Emergency and Rapid Response Services (ERRS) contractor with technical guidance on bioremediation supplied by the U.S. EPA Environmental Response Team (ERT). The START provided on-site technical and analytical support, and the Region 9 U.S. EPA Regional Laboratory provided off-site analytical support.

START Activities

Prior to mobilization, START developed a site-specific Health and Safety Plan and initiated a site-specific Time-Critical Quality Assurance Sampling Plan (QASP). All sampling activities were performed following the site-specific QASP, dated September 24, 2008.

START arrived on site on September 22, 2008, and began technical support activities at the Old Raffinate Pond. The activities included lateral delineation and measurements of the pond. START also collected two soil samples from the pond bottom for on-site analysis. Additionally, the U.S. EPA discovered two underground vaults connected to the pond via piping. START was tasked with collecting samples of standing liquid in the vaults, which were shipped to the Region 9 U.S. EPA laboratory for analysis. START also conducted periodic air monitoring of the ambient air in the work zone during all removal and sampling activities, using a Toxic Vapor Analyzer 1000 (TVA) organic vapor monitor.

START members used a TVA's, flame ionization detector to detect petroleum hydrocarbon vapors in soil samples by heating a sample in a sampling jar and monitoring the head-space with the instrument. START also used the Petroflag® commercial chemical test kit to generate a reasonable estimate of petroleum hydrocarbon concentrations. In general, the flame ionization detector method was suited for determining whether a sample contained detectable concentrations of petroleum hydrocarbons but could not generate an estimated concentration. The Petroflag® test kits provided a reasonable estimate of petroleum hydrocarbon concentrations in the soil. All field generated soil sampling data with the definitive data from confirmation samples are presented in Table 1. All field generated soil sampling data are considered screening estimates. Data for liquid samples collected from the two vaults are presented in Table 2.

On September 23, 2008, the ERRS contractor excavated to depths between three and ten feet below pond bottom, and START collected two soil samples from the excavation bottom and conducted field analysis. Field screening analysis of samples indicated elevated petroleum hydrocarbons concentrations of greater than 4,000 mg/kg and 6,000 mg/kg, which was similar to the reported TEAM 9 assessment concentrations of 5,200 mg/kg at five feet below the surface.

On September 24, 2008, the ERRS contractor excavated to depths between 10 and 15 feet below pond bottom, and START collected three soil samples from the excavation bottom and conducted field analysis. Field screening analysis of samples from the excavation indicated elevated petroleum hydrocarbon concentrations of greater than 4,000 mg/kg, 5,800 mg/kg and 5,780 mg/kg which was similar to the reported TEAM 9 assessment concentrations of 7,200 J mg/kg at 10 feet below the surface. Field analysis of additional sample collected under the piping connecting the vaults to the pond indicated petroleum hydrocarbon concentrations of greater than 4,000 mg/kg.

START used a HAZCO Interface Meter to estimate the quantities of petroleum hydrocarbons and water in the vaults. The eastern vault had approximately a half inch of oil and approximately three feet of water while the western vault contained only wastewater (approximately three feet). Analytical information on the contents of the vaults is referenced in Table 2.

On September 25, 2008, the ERRS contractor excavated to depths between 15 and 20 feet below the pond bottom. START collected soil samples from two test pits dug in the excavation bottom by the ERRS contractor. The test pits had total depths of 23 feet and 29 feet, respectively. START also collected one composite surface soil sample from around the vaults and one composite sample from around the Old Raffinate Pond berm. The petroleum hydrocarbon concentrations in the test pits, by both field and laboratory methods, were at concentrations below the project action level (AL) of 1,000 mg/kg and the TEAM 9 investigation level of 100 mg/kg. Petroleum hydrocarbon concentrations in the surface samples were above the AL. START collected two soil samples from the excavation bottom at approximately 20 feet below pond bottom and found petroleum hydrocarbon concentrations that ranged from 215 mg/kg to greater than 4,000 mg/kg (by the field screening method). The results are presented in Table 1.

On September 26, 2008, the ERRS contractor excavated to depths of greater than 20 feet below pond bottom. START collected additional soil samples in the excavation bottom area during the excavation and found that concentrations ranged from 670 mg/kg to 1,350 mg/kg (by the field screening method).

Based on the TEAM 9 START assessment and test pit data, FOSC Dunkelman directed the ERRS contractor to stop excavation at 22 to 25 feet below pond bottom. START sampled the soil at the final pond excavation bottom and in the sidewalls to document the concentrations of petroleum hydrocarbons in soil left in place. Based upon definitive analysis methodologies, the petroleum hydrocarbon measurement concentration in the excavation bottom ranged from 60 mg/kg to 1,100 mg/kg. The final excavation bottom samples had a mean total extractable petroleum hydrocarbon (TPH) concentration of 394 mg/kg and an estimated average concentration based on a upper confidence level of 95% (UCL 95%) of 726 mg/kg. The

sidewalls sample concentration ranged from 610 mg/kg to 13,000J mg/kg with a mean TPH concentration of 3,400 mg/kg. The results are presented in Table 3.

On September 27, 2008, START collected global positioning system data for the excavation area, vaults, and bioremediation areas. START sampled the soil in the bioremediation areas to document the initial concentrations of petroleum hydrocarbons in bioremediation cells. The results are presented in Table 4.

Field analytical confirmation samples, samples collected from the final excavation bottom and samples from the bioremediation cells were delivered to the Region 9 U.S EPA laboratory for TPH analysis.

On October 6, 2008, following the removal of the concrete vaults, the ERRS contractor excavated to approximately 13 feet below ground surface in the vault area. START collected soil samples from the vault excavation bottom and the sidewalls to document the concentration of petroleum hydrocarbons in soil left in place. These samples were delivered to the Region 9 U.S. EPA laboratory for TPH analysis. The final excavation samples had a mean total extractable petroleum hydrocarbon (TPH) concentration of 36,834 mg/kg and an estimated average concentration based on a upper confidence level of 95% (UCL 95%) of 13,594 mg/kg. The results are presented in Table 3 along with the results of the soil left in place in the pond excavation area.

All non-screening data presented in Tables 1 through Table 4 are were reviewed, qualified as necessary, and validated. In relationship to the action levels, the screening data confirmation samples were found to be in agreement with the corresponding screening data.

ERRS Contractor Activities

The ERRS contractor excavated a total of 7,500 cubic yards of contaminated soil from the Old Raffinate Pond and 720 cubic yards of contaminated soil from the vault area and placed it into two bioremediation cells. The areal extent of the excavation is indicated in Figure 2. The ERRS contractor also transferred approximately 8,000 gallons of contaminated wastewater from the two vaults onto the two bioremediation cells after using absorbent pads to remove the free product from the surface of the vaults.

At the time of START departure from the site on September 27, the ERRS contractor had constructed two bioremediation cells that covered approximately 2.5 acres with 2 feet of soil. The locations of the bioremediation cells are indicated in Figure 3.

Future START Activities

As directed by the U.S. EPA FOSC, START will conduct sampling of the bioremediation cells to monitor and document the biological attenuation process. Future sampling activities are expected in the spring of 2009.

Conclusion

The START was tasked by FOSC Dunkelman to provide technical assistance at the Anaconda Mine site in Yerington, Nevada. START provided work-zone air monitoring, field sampling,

field analysis, and the coordination of wastewater and post-excavation soil sample analysis by the U.S. EPA's regional laboratory. The laboratory analysis documented the concentration of petroleum hydrocarbons left in place and documented the pre-bioremediation concentration of petroleum hydrocarbons in treatment cells.

A total of 8,220 cubic yards of contaminated soil was excavated and placed into the two bioremediation treatment cells.

Please contact me if you have any questions regarding START's activities associated with this project.

Respectfully,

Howard Edwards
START Member

Attachments: A – Figures
B – Tables
C – Photo Documentation
D – Laboratory Data Reports

cc: file

ATTACHMENT A

FIGURES

© Ecology & Environment, Inc. GIS Department Project #
\\BUFSDL4\GISRegional\LongBeach\Greka_Santa_Maria\Maps\MXD\Vaults\Nov2008\Figure 1 General Location Map.mxd 11/20/2008

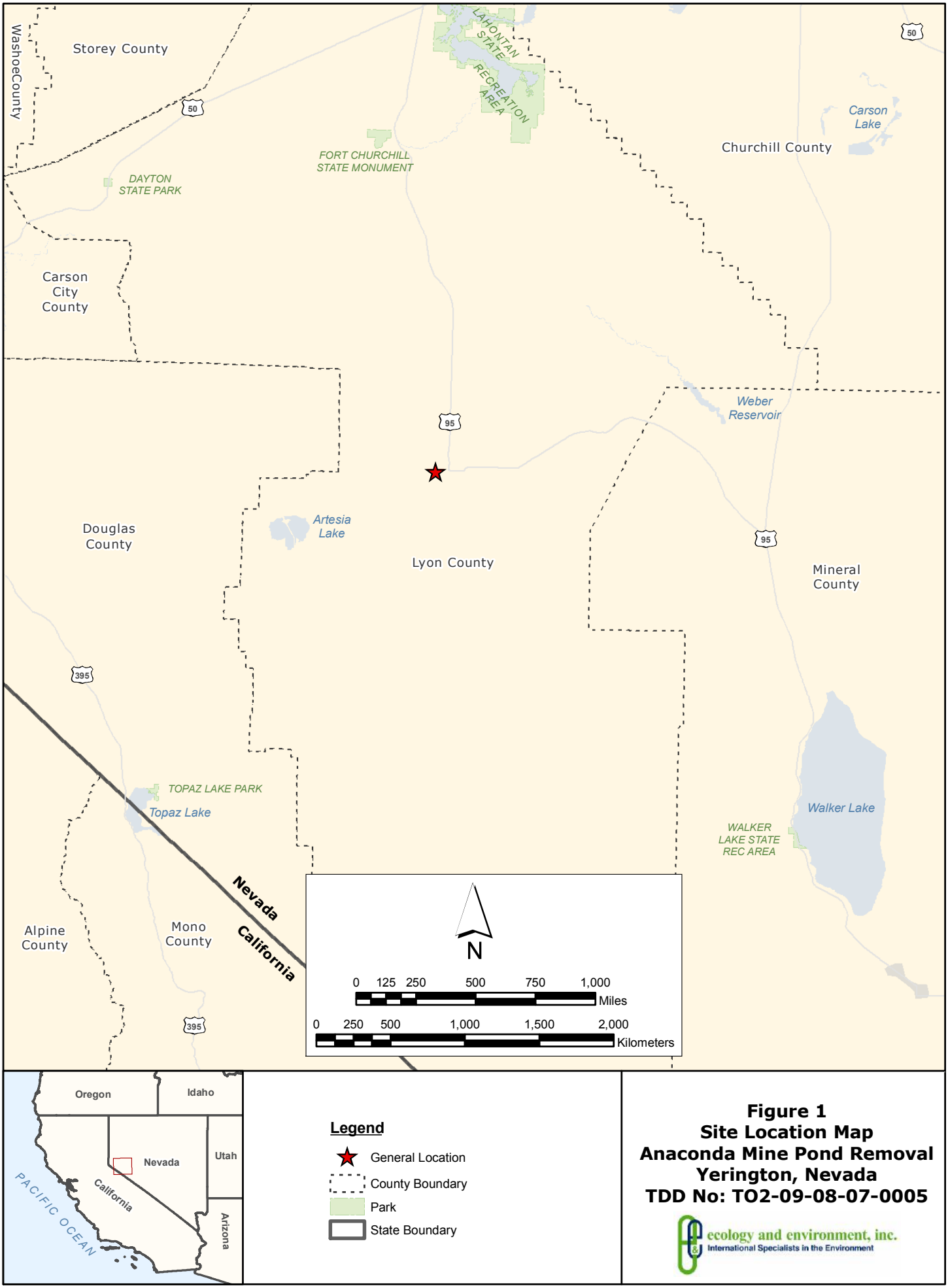

Figure 1
Site Location Map
Anaconda Mine Pond Removal
Yerington, Nevada
TDD No: TO2-09-08-07-0005

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\\BUFSDL4\GISRegional\LongBeach\Greka_Santa_Maria\Maps\MXD\Vaults\Nov2008\Figure 2 Excavation Area Map.mxd 11/20/2008

Figure 2
Excavation Area Map
Anaconda Mine Pond Removal
Yerington, Nevada
TDD No: TO2-09-08-07-0005

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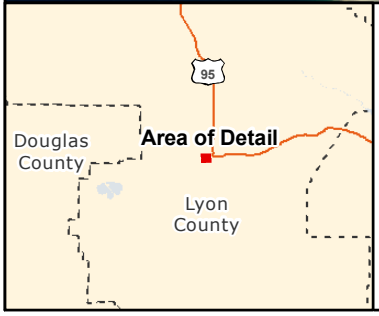
\\BUFSDL4\GISRegional\LongBeach\Greka_Santa_Maria\Maps\MXD\Vaults\Nov2008\Figure 3 Bioremediation Area Map.mxd 11/20/2008



Legend

Bioremediation Cells Vault

Notes:
For Bioremediation Cell 1 (south cell)
Mean concentration of 4,500 mg/kg for TPH
For Bioremediation Cell 2 (north cell)
Mean concentration of 2,400 mg/kg for TPH
TPH = Total Petroleum Hydrocarbons
mg/kg = milligrams per kilogram

Figure 3
Bioremediation Area Map
Anaconda Mine Pond Removal
Yerington, Nevada
TDD No: TO2-09-08-07-0005

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ATTACHMENT B

TABLES

Table 1
Anaconda Mine Pond Removal
TDD No: TO2-09-08-07-0005

Field Analysis Results with Corresponding Validated Laboratory Data

Sample Location	Date	Petroflag® Field Screening Data	Validated Laboratory Data
		mg/kg	mg/kg
Old Raffinate Pond. Excavation bottom soil sample at 3 feet below the pond bottom.	9-23-2008	> 4,000	NA
Old Raffinate Pond. Excavation bottom soil sample at 3 feet below the pond bottom.	9-23-2008	6,000	NA
Old Raffinate Pond. Excavation bottom soil sample at 10 feet below the pond bottom.	9-24-2008	5,800	NA
Background surface sample	9-24-2008	680	NA
Old Raffinate Pond. Excavation bottom soil sample at 10 feet below the pond bottom.	9-24-2008	> 4,000	NA
Old Raffinate Pond. Excavation bottom soil sample at 15 feet below the pond bottom.	9-24-2008	5,780	NA
Soil from under pipes between vault and Old Raffinate Pond	9-24-2008	> 4,000	NA
Surface soil from around vaults	9-25-2008	1800	NA
Surface soil from around berms	9-25-2008	1400	NA
Background surface soil sample	9-25-2008	370	NA
Old Raffinate Pond. Excavation bottom soil sample at 20 feet below the pond bottom.	9-25-2008	215	NA
Old Raffinate Pond. Excavation bottom soil sample at 20 feet below the pond bottom.	9-25-2008	> 4,000	NA
Test pit soil sample collected at an estimated 23 feet below the original pond bottom.	9-25-2008	68	3.4 J
Test pit soil sample collected at and estimated 29 feet below the original pond bottom	9-25-2008	51	4.6 J
Old Raffinate Pond. Excavation bottom soil sample at 20 feet below the pond bottom.	9-26-2008	1,150	NA
Old Raffinate Pond. Excavation bottom soil sample at 20 feet below the pond bottom.	9-26-2008	1,350	NA
Old Raffinate Pond. Excavation bottom soil sample at 20 feet below the pond bottom.	9-26-2008	670	NA
Final Old Raffinate Pond bottom soil sample from Western section[1]	9-26-2008	600	350 *
Final Old Raffinate Pond bottom soil sample from Eastern section [2]	9-26-2008	850	310 **
Bioremediation Cell 1[3]	9-27-2008	5,300	4,500 ***
Bioremediation Cell 2 west half	9-27-2008	> 4,000	3,200

[1] The sample analyzed in the field was a composite made from three samples; 22-A, 23-C and 25-E.
[2] The sample analyzed in the field was a composite made from three samples; 22-B, 23-D and 25-F.
[3] The sample analyzed in the field was a composite made from two samples; BTA-3 and BTA-4.
mg/kg = milligrams per kilogram NA = Not Analyzed
*** = Calculated mean for samples 22-A, 23-C and 25-E. Actual measurements are located in Table 3.**
**** = Calculated mean for samples 22-B, 23-D and 25-F. Actual measurements are located in Table 3.**
***** = Calculated mean for samples BTA-3 and BTA-4. Actual measurements are located in Table 4.**

Table 2
Anaconda Mine Pond Removal
TDD No: TO2-09-08-07-0005

Vault Samples
EPA Method 8260, EPA Method 8082, and EPA Method 8015
Validated Laboratory Data

	Sample ID	V-A	V-B	V-A-D	V-A-2
	Sample Location	Wastewater in Eastern Vault	Wastewater in Western Vault	Wastewater in Eastern Vault Duplicate	Non Aqueous Phase Liquid in Eastern Vault
Analytes	**Units**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Benzene		NA	NA	NA	ND (1,200 U)
Toluene		NA	NA	NA	ND (1,200 U)
Ethylbenzene		NA	NA	NA	ND (1,200 U)
m-Xylene & p-Xylene		NA	NA	NA	ND (1,200 U)
o-Xylene		NA	NA	NA	ND (1,200 U)
Isopropylbenzene		NA	NA	NA	ND (1,200 U)
N-Propylbenzene		NA	NA	NA	ND (1,200 U)
1,3,5-Trimethylbenzene		NA	NA	NA	ND (1,200 U)
1,2,4-Trimethylbenzene		NA	NA	NA	ND (1,200 U)
sec-Butylbenzene		NA	NA	NA	ND (1,200 U)
4-Isopropyltoluene		NA	NA	NA	ND (1,200 U)
Naphthalene		NA	NA	NA	ND (1,200 U)
Methylene Chloride		NA	NA	NA	ND (1,200 U)
cis-1,2-Dichloroethene		NA	NA	NA	ND (1,200 U)
Trichloroethene		NA	NA	NA	ND (1,200 U)
Tetrachloroethene		NA	NA	NA	ND (1,200 U)
Chloroform		NA	NA	NA	ND (1,200 U)
Diesel Range Total Petroleum Hydrocarbon (C12-C24)		3,000,000 J	11,000	1,200,000 J	NA
Polychlorinated Biphenyl		NA	NA	NA	ND (1,400 U)

1,200 U = Quantitation Limit ug/L = micrograms per liter J = Estimated Concentration

ND = Not Detected above the Reporting Limit NA = Not Analyzed or Determined

Table 3
Anaconda Mine Pond Removal
TDD No: TO2-09-08-07-0005

Soil Left In Place
Old Raffinate Pond and Vault Excavation
Validated Laboratory Data

Sample Location	Date	Sample Identification	Region 9 Laboratory TPH by EPA Method 8015
			mg/kg
Old Raffinate Pond excavation bottom. North East Section at 22 feet	9-26-2008	22-A	600
Old Raffinate Pond excavation bottom. Central East Section Background sample at 23 feet	9-25-2008	23-C	380 J
Old Raffinate Pond excavation bottom. South East Section at 25 feet	9-25-2008	25-E	85
Old Raffinate Pond excavation bottom. North West Section at 22 feet	9-25-2008	22-B	1,100
Old Raffinate Pond excavation bottom. Central West Section Background sample at 23 feet	9-25-2008	23-D	60 J
Old Raffinate Pond excavation bottom. South West Section at 25 feet	9-25-2008	25-F	140
Old Raffinate Pond excavation south side wall at 19 feet	9-25-2008	19-SW	610
Old Raffinate Pond excavation east side wall at 19 feet	9-25-2008	19-EW	5,700
Old Raffinate Pond excavation north side wall at 17 feet	9-25-2008	17-NW	3,900 J
Vault excavation south east side wall at 10.5 feet	10-6-2008	VAS-1	13,000 J
Vault excavation north east side wall at 5 feet	10-6-2008	VAS-2	4.1 J
Vault excavation north side wall at 9 feet	10-6-2008	VAS-3	3.3 J
Vault excavation west side wall at 6 feet	10-6-2008	VAS-4	1,100 J
Vault excavation south side wall at 10 feet	10-6-2008	VAS-5	20,000 J
Vault excavation bottom at 13 feet	10-6-2008	VAS-6	6,900 J

mg/kg = milligrams per kilogram **J = Estimated Concentration**

Table 4
Anaconda Mine Pond Removal
TDD No: TO2-09-08-07-0005

Soil in Bioremediation Cells
Validated Laboratory Data

Sample Location	Date	Sample Identification	Region 9 Laboratory TPH by EPA Method 8015
			mg/kg
Cell 1 East Half	9-27-2008	BTA-3	4,000 J
Cell 1 West Half	9-27-2008	BTA-4	5,000 J
Cell 2 East Half	9-27-2008	BTA-1	1,600
Cell 2 West Half	9-27-2008	BTA-2	3,200

mg/kg = milligrams per kilogram

ATTACHMENT C

PHOTO DOCUMENTATION

ECOLOGY AND ENVIRONMENT, INC.
Superfund Technical Assessment and Response Team

Anaconda Mine Pond Removal Support, Yerington, Nevada, Lyon County, Nevada

PAN#:002693.2009.01RF TDD No: TO2-09-08-07-0005
Photographer: Ben Simes Date: September 2008

Photo 1: Old Raffinate Pond prior to excavation after liner removal.

Photo 2: Concrete vaults just south of Old Raffinate Pond.

ECOLOGY AND ENVIRONMENT, INC.
Superfund Technical Assessment and Response Team

Anaconda Mine Pond Removal Support, Yerington, Nevada, Lyon County, Nevada

PAN#:002693.2009.01RF TDD No: TO2-09-08-07-0005
Photographer: Ben Simes Date: September 2008

Photo 3: Old Raffinate Pond excavation at approximately 5 feet.


Photo 4: Piping connecting the Old Raffinate Pond to vaults.

ECOLOGY AND ENVIRONMENT, INC.
Superfund Technical Assessment and Response Team

Anaconda Mine Pond Removal Support, Yerington, Nevada, Lyon County, Nevada

PAN#:002693.2009.01RF TDD No: TO2-09-08-07-0005
Photographer: Ben Simes Date: September 2008

Photo 5: Old Raffinate Pond excavation at approximately 15 feet.

Photo 6: Old Raffinate Pond during excavation to approximately 23 feet.

ECOLOGY AND ENVIRONMENT, INC.
Superfund Technical Assessment and Response Team

Anaconda Mine Pond Removal Support, Yerington, Nevada, Lyon County, Nevada

PAN#:002693.2009.01RF TDD No: TO2-09-08-07-0005
Photographer: Ben Simes Date: September 2008

Photo 6: Old Raffinate Pond excavation at approximately 23 feet.

Photo 6: Bioremediation cells with soil excavated from the Old Raffinate Pond.

ECOLOGY AND ENVIRONMENT, INC.
Superfund Technical Assessment and Response Team

Anaconda Mine Pond Removal Support, Yerington, Nevada, Lyon County, Nevada

PAN#:002693.2009.01RF TDD No: TO2-09-08-07-0005
Photographer: Ben Simes Date: September 2008

Photo 7: Vault excavation to the East.

Photo 8: Vault excavation to the North.

ATTACHMENT D

LABORATORY DATA REPORTS

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08267A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/10/08 11:22
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809039-01									**Water - Sampled: 09/22/08 12:30**
Sample ID: VA									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	3,000,000	J	250,000	ug/L	B810149	09/25/08	09/29/08	8015B/SOP385
TPH as Motor Oil	RE3	ND	U	75,000	"	"	"	09/29/08	8015B/SOP385
Surrogate: Hexacosane	*RE3*	*2,130*		86 %	*70-130%*	"	"	"	
Lab ID: 0809039-02									**Water - Sampled: 09/22/08 12:40**
Sample ID: VAD									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,200,000	J	25,000	ug/L	B810125	09/23/08	09/25/08	8015B/SOP385
TPH as Motor Oil		ND	U	31,000	"	"	"	09/24/08	8015B/SOP385
Surrogate: Hexacosane		*2,190*		88 %	*70-130%*	"	"	"	
Lab ID: 0809039-03									**Water - Sampled: 09/22/08 12:35**
Sample ID: VB									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	11,000		2,500	ug/L	B810149	09/25/08	09/29/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	10,000	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*2,080*		84 %	*70-130%*	"	"	"	

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08267A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/10/08 11:22
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8I0125 - 3520B CLLE - TPH - Extractable										**Prepared: 09/23/08 Analyzed: 09/24/08**
										Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control
Blank (B8I0125-BLK1)										
TPH as Diesel	ND	U	250	ug/L						
TPH as Motor Oil	ND	U	1,000	"						
Surrogate: Hexacosane	*241*			"	*250*		96	*70-130*		
LCS (B8I0125-BS1)										
TPH as Diesel	1,950		250	ug/L	2500		78	70-130		200
Surrogate: Hexacosane	*243*			"	*250*		97	*70-130*		
Batch B8I0149 - 3520B CLLE - TPH - Extractable										**Prepared: 09/25/08 Analyzed: 09/29/08**
										Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control
Blank (B8I0149-BLK1)										
TPH as Diesel	ND	U	250	ug/L						
TPH as Motor Oil	ND	U	1,000	"						
Surrogate: Hexacosane	*225*			"	*250*		90	*70-130*		
LCS (B8I0149-BS1)										
TPH as Diesel	2,260		250	ug/L	2500		90	70-130		200
Surrogate: Hexacosane	*239*			"	*250*		96	*70-130*		
Matrix Spike (B8I0149-MS1)		**Source: 0809039-03RE1**								
TPH as Diesel	36,900		2,500	ug/L	25300	10,800	103	70-130		25
Surrogate: Hexacosane	*2320*			"	*2530*		92	*70-130*		
Matrix Spike Dup (B8I0149-MSD1)		**Source: 0809039-03RE1**								
TPH as Diesel	35,700		2,500	ug/L	25100	10,800	99	70-130	3	25
Surrogate: Hexacosane	*2260*			"	*2510*		90	*70-130*		

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273B
Project Number:	R08S96	**75 Hawthorne Street**	**Reported:** 10/16/08 09:48
Project:	Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809059-01									**Soil - Sampled: 09/27/08 13:20**
Sample ID: BTA-1									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,600		65	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	260	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*24.4*		*75 %*	*70-130%*	"	"	"	
Sample ID: BTA-1									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-02									**Soil - Sampled: 09/27/08 13:30**
Sample ID: BTA-2									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	3,200		63	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	250	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*26.0*		*82 %*	*70-130%*	"	"	"	
Sample ID: BTA-2									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-03									**Soil - Sampled: 09/27/08 13:40**
Sample ID: BTA-3									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	4,000	J, Q7 J	160	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U, J, Q7	640	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*21.6*		*67 %*	*70-130%*	"	"	"	
Sample ID: BTA-3									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-04									**Soil - Sampled: 09/27/08 13:50**
Sample ID: BTA-4									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	5,000	J, Q7 J	160	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U, J, Q7	650	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*19.1*		*59 %*	*70-130%*	"	"	"	
Sample ID: BTA-4									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-05									**Soil - Sampled: 09/27/08 13:35**
Sample ID: BTA-1002									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	3,500		64	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	250	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*24.3*		*76 %*	*70-130%*	"	"	"	
Sample ID: BTA-1002									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0029	10/06/08	10/07/08	% calculation

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United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273B
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/16/08 09:48
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8J0018 - 3545 ASE/PFE - TPH - Extractable										**Prepared: 10/03/08 Analyzed: 10/07/08**
										Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control
Blank (B8J0018-BLK1)										
TPH as Diesel	ND	U	5	mg/kg wet						
TPH as Motor Oil	ND	U	20	"						
Surrogate: Hexacosane	*4.43*			"	*5.00*		89	*70-130*		
LCS (B8J0018-BS1)										
TPH as Diesel	44.4		5	mg/kg wet	50.0		89	70-130		200
Surrogate: Hexacosane	*4.64*			"	*5.00*		93	*70-130*		
Matrix Spike (B8J0018-MS1)		**Source: 0809059-02RE1**								
TPH as Diesel	Not Reported	C2, Q10	63	mg/kg dry	315	3,160	NR	70-130		25
Surrogate: Hexacosane	*23.8*			"	*31.5*		76	*70-130*		
Matrix Spike Dup (B8J0018-MSD1)		**Source: 0809059-02RE1**								
TPH as Diesel	Not Reported	C2, Q10	64	mg/kg dry	319	3,160	NR	70-130	2	25
Surrogate: Hexacosane	*24.2*			"	*31.9*		76	*70-130*		
Batch B8J0029 - Solids, Dry Weight (Prep) - Solids, Dry Weight										**Prepared: 10/06/08 Analyzed: 10/07/08**
										Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Blank (B8J0029-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B8J0029-DUP1)		**Source: 0809059-01**								
% Solids	93		1	%		93			0	20

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United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273C
Project Number:	R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:55
Project:	Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809060-01									**Soil - Sampled: 09/26/08 14:22**
Sample ID: 23-D									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		60	J	5.5	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.47*		81 %	*70-130%*	"	"	"	
Sample ID: 23-D									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		91		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-02									**Soil - Sampled: 09/26/08 14:23**
Sample ID: 23-DD									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		19	J	6	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	24	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.28*		70 %	*70-130%*	"	"	"	
Sample ID: 23-DD									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		83		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-03									**Soil - Sampled: 09/26/08 09:26**
Sample ID: 19-SW									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	610		52	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.83*		73 %	*70-130%*	"	"	"	
Sample ID: 19-SW									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		96		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-04									**Soil - Sampled: 09/26/08 14:28**
Sample ID: 25-F									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		140		5.4	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.69*		86 %	*70-130%*	"	"	"	
Sample ID: 25-F									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-05									**Soil - Sampled: 09/25/08 09:30**
Sample ID: 29-TP									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		4.6	CI, J	5.6	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.97*		88 %	*70-130%*	"	"	"	
Sample ID: 29-TP									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		89		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-06									**Soil - Sampled: 09/26/08 14:25**
Sample ID: 25-E									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		85		5.3	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385

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United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	Emergency Response Section	**SDG:** 08273C
Project Number:	R08S96	75 Hawthorne Street	**Reported:** 10/23/08 14:55
Project:	Anaconda Mine Old Raffinate Pond Sampling	San Francisco CA, 94105	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809060-06									**Soil - Sampled: 09/26/08 14:25**
Sample ID: 25-E									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
Surrogate: Hexacosane		*4.24*		79 %	*70-130%*	*B8J0004*	*10/01/08*	*10/08/08*	
Sample ID: 25-E									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-07									**Soil - Sampled: 09/26/08 14:15**
Sample ID: 22-A									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	600		56	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*4.69*		83 %	*70-130%*	"	"	"	
Sample ID: 22-A									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		90		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-08									**Soil - Sampled: 09/26/08 14:17**
Sample ID: 22-B									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,100		110	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		18	J	22	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*4.31*		80 %	*70-130%*	"	"	"	
Sample ID: 22-B									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-09									**Soil - Sampled: 09/26/08 14:45**
Sample ID: 17-NW									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	3,900	J, Q7 J	260	mg/kg dry	B8J0004	10/01/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	J, Q7, U	58	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.22*		61 %	*70-130%*	"	"	"	
Sample ID: 17-NW									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-10									**Soil - Sampled: 09/26/08 14:40**
Sample ID: 19-EW									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	5,700		540	mg/kg dry	B8J0004	10/01/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	86	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.90*		72 %	*70-130%*	"	"	"	
Sample ID: 19-EW									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-11									**Soil - Sampled: 09/26/08 14:26**
Sample ID: 25-ED									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		98		5.3	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.22*		78 %	*70-130%*	"	"	"	
Sample ID: 25-ED									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0057	10/13/08	10/14/08	% calculation

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United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
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Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273C
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:55
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809060-12									**Soil - Sampled: 09/25/08 09:25**
Sample ID: 23-TP									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		3.4	C1, F1, J	5.3	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.18*		79 %	*70-130%*	"	"	"	
Sample ID: 23-TP									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-13									**Soil - Sampled: 09/26/08 14:20**
Sample ID: 23-C									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	380	J, Q7 J	11	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	Q7, U	22	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.31*		61 %	*70-130%*	"	"	"	
Sample ID: 23-C									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation

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United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
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Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273C
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:55
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8J0004 - 3545 ASE/PFE - TPH - Extractable										
								Prepared: 10/01/08 Analyzed: 10/08/08		
								Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control		
Blank (B8J0004-BLK1)										
TPH as Diesel	ND	U	5	mg/kg wet						
TPH as Motor Oil	ND	U	20	"						
Surrogate: Hexacosane	*4.22*			"	*5.00*		84	*70-130*		
LCS (B8J0004-BS1)										
TPH as Diesel	50.1		5	mg/kg wet	50.0		100	70-130		200
Surrogate: Hexacosane	*4.80*			"	*5.00*		96	*70-130*		
Matrix Spike (B8J0004-MS1)		**Source: 0809060-08**								
TPH as Diesel	Not Reported	Q10	5.4	mg/kg dry	54.1	1,040	NR	70-130		25
Surrogate: Hexacosane	*4.07*			"	*5.41*		75	*70-130*		
Matrix Spike Dup (B8J0004-MSD1)		**Source: 0809060-08**								
TPH as Diesel	Not Reported	Q10	5.4	mg/kg dry	54.1	1,040	NR	70-130	0.07	25
Surrogate: Hexacosane	*4.48*			"	*5.41*		83	*70-130*		
Batch B8J0057 - Solids, Dry Weight (Prep) - Solids, Dry Weight								**Prepared: 10/13/08 Analyzed: 10/14/08**		
								Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control		
Blank (B8J0057-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B8J0057-DUP1)		**Source: 0809060-06**								
% Solids	94		1	%		94			0	20

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Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08282A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/24/08 13:30
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0810012-01									**Soil - Sampled: 10/06/08 11:10**
Sample ID: VAS-1006-14'-01									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	13,000	J, Q7 J	530	mg/kg dry	B8J0041	10/08/08	10/13/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	J, Q7, U	210	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*3.46*		66 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-14'-01									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-02									**Soil - Sampled: 10/06/08 11:12**
Sample ID: VAS-1006-6'-02									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		4.1	C1, J	5.2	mg/kg dry	B8J0041	10/08/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.31*		83 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-6'-02									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		97		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-03									**Soil - Sampled: 10/06/08 11:14**
Sample ID: VAS-1006-9'-03									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		3.3	C1, J	5.1	mg/kg dry	B8J0041	10/08/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	20	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.62*		90 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-9'-03									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		98		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-04									**Soil - Sampled: 10/06/08 11:15**
Sample ID: VAS-1006-9'-04									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,100		52	mg/kg dry	B8J0041	10/08/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	62	"	"	"	10/10/08	8015B/SOP385
Surrogate: Hexacosane		*4.22*		81 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-9'-04									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		96		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-05									**Soil - Sampled: 10/06/08 11:17**
Sample ID: VAS-1006-12'-05									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	20,000		520	mg/kg dry	B8J0041	10/08/08	10/13/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	260	"	"	"	10/10/08	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*3.65*		70 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-12'-05									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		96		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-06									**Soil - Sampled: 10/06/08 11:20**
Sample ID: VAS-1006-13'-06									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	6,900	J, Q7 J	260	mg/kg dry	B8J0041	10/08/08	10/13/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	J, Q7, U	210	"	"	"	10/09/08	8015B/SOP385

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United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08282A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/24/08 13:30
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0810012-06									**Soil - Sampled: 10/06/08 11:20**
Sample ID: VAS-1006-13'-06									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
Surrogate: Hexacosane	*RE1*	*3.46*		*67 %*	*70-130%*	*B8J0041*	*10/08/08*	*10/09/08*	
Sample ID: VAS-1006-13'-06									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		97		1	%	B8J0043	10/08/08	10/09/08	% calculation

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8J0041 - 3545 ASE/PFE - TPH - Extractable									**Prepared: 10/08/08 Analyzed: 10/09/08**	
									Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control	
Blank (B8J0041-BLK1)										
TPH as Diesel	ND	U	5	mg/kg wet						
TPH as Motor Oil	ND	U	20	"						
Surrogate: Hexacosane	*4.03*			"	*5.00*		81	*70-130*		
LCS (B8J0041-BS1)										
TPH as Diesel	49.2		5	mg/kg wet	50.0		98	70-130		200
Surrogate: Hexacosane	*4.77*			"	*5.00*		95	*70-130*		
Matrix Spike (B8J0041-MS1)		**Source: 0810012-05RE1**								
TPH as Diesel	Not Reported	Q10	52	mg/kg dry	52.1	17,900	NR	70-130		25
Surrogate: Hexacosane	*4.07*			"	*5.21*		78	*70-130*		
Matrix Spike Dup (B8J0041-MSD1)		**Source: 0810012-05RE1**								
TPH as Diesel	Not Reported	Q10	52	mg/kg dry	52.1	17,900	NR	70-130	0.1	25
Surrogate: Hexacosane	*4.28*			"	*5.21*		82	*70-130*		
Batch B8J0043 - Solids, Dry Weight (Prep) - Solids, Dry Weight									**Prepared: 10/08/08 Analyzed: 10/09/08**	
									Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control	
Blank (B8J0043-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B8J0043-DUP1)		**Source: 0810012-03**								
% Solids	98		1	%			98		0	20

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08269G
Project Number:	R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:11
Project:	Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809051-01									**NAPL - Sampled: 09/23/08 10:30**
Sample ID: VA-2									**Polychlorinated Biphenyls by EPA Method 8082**
Aroclor 1016		ND	U	1,400	ug/kg	B8I0158	09/29/08	10/10/08	8082/SOP335
Aroclor 1221		ND	U	2,900	"	"	"	"	8082/SOP335
Aroclor 1232		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1242		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1248		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1254		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1260		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1262		ND	U	1,400	"	"	"	"	8082/SOP335
Surrogate: Tetrachloro-m-xylene	*REI*	*1,150*		80 %	*65-135%*	"	"	*10/10/08*	
Surrogate: Decachlorobiphenyl	*REI*	*1,170*		82 %	*80-130%*	"	"	"	

12/3/08

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Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08269G
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:11
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8I0158 - 3580A Waste Dilution - PCBs								**Prepared: 09/29/08 Analyzed: 10/10/08**		
								Polychlorinated Biphenyls by EPA Method 8082 - Quality Control		
Blank (B8I0158-BLK1)										
Aroclor 1016	ND	U	200	ug/kg						
Aroclor 1221	ND	U	400	"						
Aroclor 1232	ND	U	200	"						
Aroclor 1242	ND	U	200	"						
Aroclor 1248	ND	U	200	"						
Aroclor 1254	ND	U	200	"						
Aroclor 1260	ND	U	200	"						
Aroclor 1262	ND	U	200	"						
Surrogate: Tetrachloro-m-xylene	*222*			"	*200*		111	*65-135*		
Surrogate: Decachlorobiphenyl	*179*			"	*200*		89	*80-130*		
LCS (B8I0158-BS1)										
Aroclor-1016	659		200	ug/kg	500		132	65-135		200
Aroclor-1260	590		200	"	500		118	65-135		200
Surrogate: Tetrachloro-m-xylene	*238*			"	*200*		119	*65-135*		
Surrogate: Decachlorobiphenyl	*165*			"	*200*		83	*80-130*		
Matrix Spike (B8I0158-MS1)		**Source: 0809051-01**								
Aroclor 1016	3,580		1,800	ug/kg	4550	ND	79	65-135		20
Aroclor-1260	4,410		1,800	"	4550	ND	97	65-135		20
Surrogate: Tetrachloro-m-xylene	*1270*			"	*1820*		70	*65-135*		
Surrogate: Decachlorobiphenyl	*1240*			"	*1820*		68	*80-130*		
Matrix Spike Dup (B8I0158-MSD1)		**Source: 0809051-01**								
Aroclor-1016	3,880		1,700	ug/kg	4170	ND	93	65-135	15	20
Aroclor-1260	4,230		1,700	"	4170	ND	101	65-135	4	20
Surrogate: Tetrachloro-m-xylene	*1160*			"	*1670*		70	*65-135*		
Surrogate: Decachlorobiphenyl	*1300*			"	*1670*		78	*80-130*		

12/3/08

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF
Laboratory: EPA Region 9 Laboratory	Lab Project Number: 0809039
Sampling Dates: 9/22/08	Sample Matrix: Water
Analytical Method: *TPH as Diesel & MO EPA 8015M*	Data Reviewer: Mindy Song

REVIEW AND APPROVAL:

Data Reviewer: Mindy Song Date: 12/3/08
Technical QA Reviewer: Howard Edwards Date:
Project Manager: Howard Edwards Date:

SAMPLE IDENTIFICATION:

Sample No.	Sample I.D.	Laboratory I.D.
1	VA	0809039-01
2	VAD	0809039-02
3	VB	0809039-03
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA PACKAGE COMPLETENESS CHECKLIST:

Checklist Code:

- X Included: no problems
- * Included: problems noted in review
- O Not Included and/or Not Available
- NR Not Required
- RS Provided As Re-submission

Case Narrative:

- X Case Narrative present

Quality Control Summary Package:

- X Data Summary sheets
- X Matrix Spike/Spike Duplicate Recoveries
- X Laboratory Control Sample Recoveries
- X Method Blank Summaries
- X Initial Calibration Data
- X Continuing Calibration Data
- X Surrogate Compound Recovery Summary
- NR Internal Standard Area Summary

Sample and Blank Data Package Section

- X Chromatograms
- X Quantitation Reports

Raw QC Data Package Section

- X Quantitation Reports for Standards, LCS, and MS/MSD
- X List of Instrument Detection Limits
- X Chain-of-Custody Records
- X Sample Preparation and Analysis Run Logs

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA VALIDATION SUMMARY

The data were reviewed following procedures and limits specified in the EPA OSWER directive, *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (EPA/540/G-90/004, OSWER Directive 9360.4-01, dated April 1990).

Indicate with a YES or NO whether each item is acceptable without qualification:

1	Holding Times	YES
2	Instrument Performance Criteria	YES
3	Initial Calibrations	YES
4	Continuing Calibrations	YES
5	Laboratory Control Sample	YES
6	Matrix Spike/Matrix Spike Duplicate	YES
7	Blanks and Background Samples	YES
8	Surrogate Compounds	YES
9	Internal Standards	N/A
10	Duplicate Analyses	NO
11	Analyte Identification	YES
12	Analyte Quantitation	YES
13	Overall Assessment of Data	YES
14	Usability of Data	YES

Comments: Sample VAD is a field duplicate of sample VA and RPD between diesel results was greater than 25%. Detected diesel results were qualified as estimated (J)
N/A: Not Applicable

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

1. HOLDING TIMES

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Samples were extracted and analyzed within required holding times except as noted under Comments. In addition, no problems were identified with regard to sample preservation or custody unless specified. For those samples analyzed outside holding time requirements, the detected results have been qualified as estimated (J), and the nondetected results have been qualified either as estimated (UJ) or rejected (R) based on the reviewer's judgment.

Water Samples: Purgeable analyses: 14 days (from collection) to analysis. Extractable analyses: 7 days (from collection) to extraction; 40 days (from extraction) to analysis. Soil or Other Matrices: Purgeable analyses: 14 days (from collection) to analysis. Extractable analyses:14 days (from collection) to extraction;40 days (from extraction) to analysis.

Comments: Analytical holding time was met.

2. INSTRUMENT PERFORMANCE CRITERIA

X	Raw data has been checked to verify that there is adequate resolution (>25%) between peaks of the standard compounds.
X	Raw data has been checked to verify that retention time windows are reported and that all standard compounds are within the windows.

Comments:

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

3. INITIAL CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, a 5-point initial calibration was run. In addition, average Relative Response Factor (RRF), and percent relative Standard Deviation (%RSD) values were within control limits (%RSD <= 20). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the low calibration level was not detected, the non-detected results are qualified (UJ).

Comments: TPH as diesel and motor oil standards were used and %RSD values were within the control limit.

4. CONTINUING CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, continuing calibrations were performed at the beginning and at the end of any group of samples and at least every 12 hours. In addition, Relative Response Factors (RRF), and Percent Difference (%D) values were within control limits (%D <= 15). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the %D is very high and indicates a severe loss of instrument sensitivity, the associated non-detected results may be qualified as estimated (UJ) or rejected (R) based on the professional judgment of the reviewer.

Comments: Diesel and motor oil standards were analyzed and percent difference values were within the control limit.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

5. LABORATORY CONTROL SAMPLE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Laboratory Control Samples Analyzed

Laboratory control sample recoveries are used for a qualitative indication of accuracy (bias) independent of matrix effects. LCS recovery limits should either be specified in the Sampling and Analysis Plan or can be established by the laboratory. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J).

Comments: LCS recovery was within the control limit.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Matrix Spike/Matrix Spike Duplicates Analyzed

Matrix spike and matrix spike duplicate recoveries are used for a qualitative indication of accuracy (bias) due to matrix effects. The RPD between the recoveries is used for a qualitative indication of precision. Spike recovery limits of 80% to 120% are specified in EPA/540/G-90/004. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). At the discretion of the reviewer, other limits may be used only if justification can be provided.

Comments: Sample VB was used for MS/MSD analysis and the recoveries were within the control limit.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

7. BLANKS AND BACKGROUND SAMPLES

__X__ Acceptable
_____ Detection Limits Adjusted

The following blanks were analyzed:
__X__ Method (preparation) Blanks
_____ Field Blanks
_____ Instrument Blanks
_____ Rinsate Blanks
_____ Background Samples
_____ VOA Trip Blanks

Preparation (method) blanks were prepared for each batch of samples extracted. A preparation blank was analyzed after every continuing calibration standard, prior to sample analysis unless noted below. Any compound detected in the sample and also detected in any associated blank, must be qualified as non-detect (U) when the sample concentration is less than 5x the blank concentration.

Comments: No contamination was found in the method blank at reporting limit level.

8. SURROGATE COMPOUNDS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No surrogates analyzed

Surrogate compound recoveries for samples analyzed within a sample group must be within the limits specified in the method. If the surrogate recovery is between 10% and the lower limit, the associated detected results are qualified as estimated (J) and the non-detected results are qualified as estimated (UJ). If the surrogate recovery is <10%, the associated detected results are qualified as estimated (J) and the non-detected results are rejected (R). If the surrogate recovery is above the upper limit, the associated detected results are qualified as estimated (J). Surrogate recoveries which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms. If there are no limits specified in the method, laboratory limits based on historical performance may be used at the discretion of the reviewer.

Comments: Surrogate recoveries were within the control limits.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

9. INTERNAL STANDARDS

_____Acceptable
_____Acceptable with qualification
_____Unacceptable
__X__No internal standards analyzed

Internal Standard area counts for samples analyzed within a sample group must be within the range of 50% to 200% of the internal standard area for the continuing calibration. If the internal standard area is between 10% and 50% of this value, the associated detected results are qualified as estimated (J) and the nondetected results are qualified as estimated (UJ). If the internal standard area is <10% of the calibration area, both the detected and nondetected results are rejected (R). If the internal standard area is >200% of the calibration area, the associated detected results are qualified as estimated (J). Internal standards which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms.

Comments:

10. DUPLICATE ANALYSES

_____Acceptable
__X__Acceptable with qualification
_____Unacceptable
_____No Duplicates Analyzed

Type of duplicates analyzed:
__X__Field Duplicates
_____Laboratory Duplicates

Calculate the relative Percent Difference (RPD) between the members of duplicate pairs using the equation indicated below. Qualify the results as estimated (J) for any analyte whose RPD exceeds that specified in the Sampling and Analysis Plan.

$$RPD = \frac{2(Value\ 1 - Value\ 2)}{Value\ 1 + Value\ 2} \times 100\%$$

Comments:	VA	VAD	RPD (%)
Diesel, ug/L	3,000,000	1,200,000	86*

*: RPD>25%. Detected diesel results in VA and VAD were qualified as estimated (J).

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

11. ANALYTE IDENTIFICATION

Verify that positive results have been confirmed on a dissimilar second column, that the sample chromatograms agree with the correct daily standard chromatograms, and that the retention time windows match.

Comments:

12. ANALYTE QUANTITATION

Confirm that analyte quantitation was performed correctly using the following formulas:

Purgeable analyses, water samples:

ug/L = (analyte area)(amount of external standard, ng)
(external standard area)(volume of water purged, mL)

Purgeable analyses, soil samples:

ug/kg = (analyte area)(amount of external standard, ng)
(external standard area)(weight of soil extracted, g)(fraction solids)

Extractable analyses, water samples:

ug/L = (analyte area)(amount of external standard, ng)(total volume of extract, uL)
(external standard area)(volume of sample extracted, mL)(injection volume, uL)

Extractable analyses, soil samples:

ug/kg = (analyte area)(amount of external standard, ng)(total volume of extract, uL)
(external standard area)(weight of sample extracted, g)(fraction solids)(injection volume, uL)

Comments:

Sample VAD
Diesel: (5798794574/2.389E6) (ug/mL) (10) (5mL/100mL) = 1213.6 ug/mL= 1,213,600 ug/L.
Lab reported 1,200,000 ug/L.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

13. OVERALL ASSESSMENT OF DATA

On the basis of this review, the following determination has been made with regard to the overall data usability for the specified level.

_____Acceptable
__X__Acceptable with Qualification
_____Rejected

Accepted data meet the minimum requirements for the following EPA data category:
_____ERS Screening
_____Non-definitive with 10 % Conformation by Definitive Methodology
_____Definitive, Comprehensive Statistical Error Determination was performed.
__X__Definitive, Comprehensive Statistical Error Determination was not performed.

Any qualifications to individual sample analysis results are detailed in the appropriate section above or appear under the comments section below. In cases where several QC criteria are out of specification, it may be appropriate to further qualify the data usability. The data reviewer must use professional judgment and express concerns and comments on the data validity for each specific data package.

Comments: Data as reported are valid.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

14. USABILITY OF DATA

A. These data are considered usable for the data use objectives stated in the *EPA EMERGENCY RESPONSE SECTION AND SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM QUALITY ASSURANCE SAMPLING PLAN FOR SOIL, WATER AND MISCELLANEOUS MATRIX SAMPLING, ANACONDA MINE POND REMOVAL SUPPORT, YERINGTON, NEVADA , SEPTEMBER 24, 2008 (QASP).*

The following data use objectives were indicated in the *QASP:*

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVELS TO DETERMINE IF ADDITIONAL EXCAVATION IS NEEDED.

TO PROVIDE CONTAMINATE INFORMATION TO ASSIST IN THE USEPA DECISION REGARDING ON-SITE TREATMENT.

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVEL TO DETERMINE IF TREATMENT IS COMPLETED AND/OR PROGRESSING.

THE DATA ARE USABLE FOR THE ABOVE OBJECTIVES.

B. These data meet quality objectives stated in the *QASP.*

AS INDICATED IN SECTION 2.4 OF THE QASP, THE INVESTIGATION WILL GENERATE BOTH SCREENING AND DEFINITIVE DATA AND TABLE E OF THE QASP OUTLINES THE DATA QUALITY INDICATOR GOALS APPLICABLE TO THE DEFINITIVE DATA QUALITY LEVEL. THE DATA IN THIS PACKAGE MEET THESE REQUIREMENTS.

15. DOCUMENTATION OF LABORATORY CORRECTIVE ACTION

Problem: No problems requiring corrective action were found.

Resolution: Not required.

Attached are copies of all data summary sheets, with data qualifiers indicated, and a copy of the chain of custody for the samples.

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08267A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/10/08 11:22
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809039-01									**Water - Sampled: 09/22/08 12:30**
Sample ID: VA									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	3,000,000	J	250,000	ug/L	B810149	09/25/08	09/29/08	8015B/SOP385
TPH as Motor Oil	RE3	ND	U	75,000	"	"	"	09/29/08	8015B/SOP385
Surrogate: Hexacosane	*RE3*	*2,130*		86 %	*70-130%*	"	"	"	
Lab ID: 0809039-02									**Water - Sampled: 09/22/08 12:40**
Sample ID: VAD									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,200,000	J	25,000	ug/L	B810125	09/23/08	09/25/08	8015B/SOP385
TPH as Motor Oil		ND	U	31,000	"	"	"	09/24/08	8015B/SOP385
Surrogate: Hexacosane		*2,190*		88 %	*70-130%*	"	"	"	
Lab ID: 0809039-03									**Water - Sampled: 09/22/08 12:35**
Sample ID: VB									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	11,000		2,500	ug/L	B810149	09/25/08	09/29/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	10,000	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*2,080*		84 %	*70-130%*	"	"	"	

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08267A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/10/08 11:22
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8I0125 - 3520B CLLE - TPH - Extractable										**Prepared: 09/23/08 Analyzed: 09/24/08**
										Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control
Blank (B8I0125-BLK1)										
TPH as Diesel	ND	U	250	ug/L						
TPH as Motor Oil	ND	U	1,000	"						
Surrogate: Hexacosane	*241*			"	*250*		96	*70-130*		
LCS (B8I0125-BS1)										
TPH as Diesel	1,950		250	ug/L	2500		78	70-130		200
Surrogate: Hexacosane	*243*			"	*250*		97	*70-130*		
Batch B8I0149 - 3520B CLLE - TPH - Extractable										**Prepared: 09/25/08 Analyzed: 09/29/08**
										Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control
Blank (B8I0149-BLK1)										
TPH as Diesel	ND	U	250	ug/L						
TPH as Motor Oil	ND	U	1,000	"						
Surrogate: Hexacosane	*225*			"	*250*		90	*70-130*		
LCS (B8I0149-BS1)										
TPH as Diesel	2,260		250	ug/L	2500		90	70-130		200
Surrogate: Hexacosane	*239*			"	*250*		96	*70-130*		
Matrix Spike (B8I0149-MS1)		**Source: 0809039-03RE1**								
TPH as Diesel	36,900		2,500	ug/L	25300	10,800	103	70-130		25
Surrogate: Hexacosane	*2320*			"	*2530*		92	*70-130*		
Matrix Spike Dup (B8I0149-MSD1)		**Source: 0809039-03RE1**								
TPH as Diesel	35,700		2,500	ug/L	25100	10,800	99	70-130	3	25
Surrogate: Hexacosane	*2260*			"	*2510*		90	*70-130*		

12/3/08

ice of Enforcement

CHAIN OF CUSTODY RECORD

76 Hawthorne St
San Francisco, Califor

PROJECT NAME: Anaconda Ponds

Signature: [signature]

DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	8015 - Diesel/MO	REMARKS
4/22	1230		X	VA	1	X	
4/22	1240		X	VAD	1	X	
4/22	1235		X	~~VAB~~ VB	1	X	RUSH 2 DAY TAT
				sample ID should be "VB" as per Howard Edwards KP 4/23/08			
							Custody seals on all bottles intact upon receipt. GM 4/23/08

Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/22/08 1320	Fed Ex 8631 1986 7628

Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)
		RNM

Date / Time: 4/23/08 0935

Remarks: No custody seals present on samples 3°C upon receipt @ la
KP 4/23/0

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

9 3243

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	**Location: Yerington, Nevada**
TDD Number: 09-08-07-005	**Project Number: 002693.2009.01RF**
Laboratory: EPA Region 9 Laboratory	**Lab Project Number: 0809059**
Sampling Dates: 9/27/08	**Sample Matrix: Soil**
Analytical Method: *TPH as Diesel & MO EPA 8015M*	**Data Reviewer: Mindy Song**

REVIEW AND APPROVAL:

Data Reviewer: Mindy Song **Date:** 12/3/08
Technical QA Reviewer: Howard Edwards **Date:**
Project Manager: Howard Edwards **Date:**

SAMPLE IDENTIFICATION:

Sample No.	Sample I.D.	Laboratory I.D.
1	BTA-1	0809059-01
2	BTA-2	0809059-02
3	BTA-3	0809059-03
4	BTA-4	0809059-04
5	BTA-1002	0809059-05
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ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA PACKAGE COMPLETENESS CHECKLIST:

Checklist Code:

- X Included: no problems
- * Included: problems noted in review
- O Not Included and/or Not Available
- NR Not Required
- RS Provided As Re-submission

Case Narrative:

- X Case Narrative present

Quality Control Summary Package:

- X Data Summary sheets
- * Matrix Spike/Spike Duplicate Recoveries
- X Laboratory Control Sample Recoveries
- X Method Blank Summaries
- X Initial Calibration Data
- X Continuing Calibration Data
- * Surrogate Compound Recovery Summary
- NR Internal Standard Area Summary

Sample and Blank Data Package Section

- X Chromatograms
- X Quantitation Reports

Raw QC Data Package Section

- X Quantitation Reports for Standards, LCS, and MS/MSD
- X List of Instrument Detection Limits
- X Chain-of-Custody Records
- X Sample Preparation and Analysis Run Logs

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA VALIDATION SUMMARY

The data were reviewed following procedures and limits specified in the EPA OSWER directive, *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (EPA/540/G-90/004, OSWER Directive 9360.4-01, dated April 1990).

Indicate with a YES or NO whether each item is acceptable without qualification:

1	Holding Times	YES
2	Instrument Performance Criteria	YES
3	Initial Calibrations	YES
4	Continuing Calibrations	YES
5	Laboratory Control Sample	YES
6	Matrix Spike/Matrix Spike Duplicate	YES
7	Blanks and Background Samples	YES
8	Surrogate Compounds	NO
9	Internal Standards	N/A
10	Duplicate Analyses	YES
11	Analyte Identification	YES
12	Analyte Quantitation	YES
13	Overall Assessment of Data	YES
14	Usability of Data	YES

Comments: Surrogate recoveries were within the control limits except sample BTA-3 (67%) and BTA-4 (59%). Detected diesel results in BTA-3 and BTA-4 were qualified as estimated (J)
N/A: Not Applicable

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

1. HOLDING TIMES

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Samples were extracted and analyzed within required holding times except as noted under Comments. In addition, no problems were identified with regard to sample preservation or custody unless specified. For those samples analyzed outside holding time requirements, the detected results have been qualified as estimated (J), and the nondetected results have been qualified either as estimated (UJ) or rejected (R) based on the reviewer's judgment.

Water Samples:
Purgeable analyses: 14 days (from collection) to analysis.
Extractable analyses: 7 days (from collection) to extraction; 40 days (from extraction) to analysis.
Soil or Other Matrices:
Purgeable analyses: 14 days (from collection) to analysis.
Extractable analyses:14 days (from collection) to extraction;40 days (from extraction) to analysis.

Comments: Analytical holding time was met.

2. INSTRUMENT PERFORMANCE CRITERIA

X	Raw data has been checked to verify that there is adequate resolution (>25%) between peaks of the standard compounds.
X	Raw data has been checked to verify that retention time windows are reported and that all standard compounds are within the windows.

Comments:

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

3. INITIAL CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, a 5-point initial calibration was run. In addition, average Relative Response Factor (RRF), and percent relative Standard Deviation (%RSD) values were within control limits (%RSD <= 20). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the low calibration level was not detected, the non-detected results are qualified (UJ).

Comments: TPH as diesel and motor oil standards were used and %RSD values were within the control limit.

4. CONTINUING CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, continuing calibrations were performed at the beginning and at the end of any group of samples and at least every 12 hours. In addition, Relative Response Factors (RRF), and Percent Difference (%D) values were within control limits (%D <= 15). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the %D is very high and indicates a severe loss of instrument sensitivity, the associated non-detected results may be qualified as estimated (UJ) or rejected (R) based on the professional judgment of the reviewer.

Comments: Diesel and motor oil standards were analyzed and percent difference values were within the control limit.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

5. LABORATORY CONTROL SAMPLE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Laboratory Control Samples Analyzed

Laboratory control sample recoveries are used for a qualitative indication of accuracy (bias) independent of matrix effects. LCS recovery limits should either be specified in the Sampling and Analysis Plan or can be established by the laboratory. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J).

Comments: LCS recovery was within the control limit.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Matrix Spike/Matrix Spike Duplicates Analyzed

Matrix spike and matrix spike duplicate recoveries are used for a qualitative indication of accuracy (bias) due to matrix effects. The RPD between the recoveries is used for a qualitative indication of precision. Spike recovery limits of 80% to 120% are specified in EPA/540/G-90/004. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). At the discretion of the reviewer, other limits may be used only if justification can be provided.

Comments: Sample BTA-3 was used for MS/MSD analysis and the recoveries were outside of control limit. Qualification was not necessary because the amount of diesel present in the parent sample was greater than four times amount spiked.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

7. BLANKS AND BACKGROUND SAMPLES

__X__ Acceptable
_____ Detection Limits Adjusted

The following blanks were analyzed:
__X__ Method (preparation) Blanks
_____ Field Blanks
_____ Instrument Blanks
_____ Rinsate Blanks
_____ Background Samples
_____ VOA Trip Blanks

Preparation (method) blanks were prepared for each batch of samples extracted. A preparation blank was analyzed after every continuing calibration standard, prior to sample analysis unless noted below. Any compound detected in the sample and also detected in any associated blank, must be qualified as non-detect (U) when the sample concentration is less than 5x the blank concentration.

Comments: No contamination was found in the method blank at reporting limit level.

8. SURROGATE COMPOUNDS

_____ Acceptable
__X__ Acceptable with qualification
_____ Unacceptable
_____ No surrogates analyzed

Surrogate compound recoveries for samples analyzed within a sample group must be within the limits specified in the method. If the surrogate recovery is between 10% and the lower limit, the associated detected results are qualified as estimated (J) and the non-detected results are qualified as estimated (UJ). If the surrogate recovery is <10%, the associated detected results are qualified as estimated (J) and the non-detected results are rejected (R). If the surrogate recovery is above the upper limit, the associated detected results are qualified as estimated (J). Surrogate recoveries which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms. If there are no limits specified in the method, laboratory limits based on historical performance may be used at the discretion of the reviewer.

Comments: Surrogate recoveries were within the control limits except sample BTA-3 (67%) and BTA-4 (59%). Detected diesel results in BTA-3 and BTA-4 were qualified as estimated (J)

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

9. INTERNAL STANDARDS

_____Acceptable
_____Acceptable with qualification
_____Unacceptable
__X__No internal standards analyzed

Internal Standard area counts for samples analyzed within a sample group must be within the range of 50% to 200% of the internal standard area for the continuing calibration. If the internal standard area is between 10% and 50% of this value, the associated detected results are qualified as estimated (J) and the nondetected results are qualified as estimated (UJ). If the internal standard area is <10% of the calibration area, both the detected and nondetected results are rejected (R). If the internal standard area is >200% of the calibration area, the associated detected results are qualified as estimated (J). Internal standards which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms.

Comments:

10. DUPLICATE ANALYSES

__X__Acceptable
_____Acceptable with qualification
_____Unacceptable
_____No Duplicates Analyzed

Type of duplicates analyzed:
__X__Field Duplicates
_____Laboratory Duplicates

Calculate the relative Percent Difference (RPD) between the members of duplicate pairs using the equation indicated below. Qualify the results as estimated (J) for any analyte whose RPD exceeds that specified in the Sampling and Analysis Plan.

$$RPD = \frac{2(Value\ 1 - Value\ 2)}{Value\ 1 + Value\ 2} \times 100\%$$

Comments:	BTA-2	BTA-1002	RPD (%)
Diesel, mg/kg	3,200	3,500	9

BTA-1002 is a field duplicate of BTA-2 and RPD was within the control limit.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

11. ANALYTE IDENTIFICATION

Verify that positive results have been confirmed on a dissimilar second column, that the sample chromatograms agree with the correct daily standard chromatograms, and that the retention time windows match.

Comments:

12. ANALYTE QUANTITATION

Confirm that analyte quantitation was performed correctly using the following formulas:

Purgeable analyses, water samples:

$$\text{ug/L} = \frac{\text{(analyte area)(amount of external standard, ng)}}{\text{(external standard area)(volume of water purged, mL)}}$$

Purgeable analyses, soil samples:

$$\text{ug/kg} = \frac{\text{(analyte area)(amount of external standard, ng)}}{\text{(external standard area)(weight of soil extracted, g)(fraction solids)}}$$

Extractable analyses, water samples:

$$\text{ug/L} = \frac{\text{(analyte area)(amount of external standard, ng)(total volume of extract, uL)}}{\text{(external standard area)(volume of sample extracted, mL)(injection volume, uL)}}$$

Extractable analyses, soil samples:

$$\text{ug/kg} = \frac{\text{(analyte area)(amount of external standard, ng)(total volume of extract, uL)}}{\text{(external standard area)(weight of sample extracted, g)(fraction solids)(injection volume, uL)}}$$

Comments: Sample BTA-1
Diesel: (3416019196/2.759E+6) (ug/mL) (2) (3mL/4.99g) (100/93) = 1600.8 ug/g= 1601 mg/kg.
Lab reported 1600 mg/kg.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

13. OVERALL ASSESSMENT OF DATA

On the basis of this review, the following determination has been made with regard to the overall data usability for the specified level.

_____Acceptable
__X__Acceptable with Qualification
_____Rejected

Accepted data meet the minimum requirements for the following EPA data category:
_____ERS Screening
_____Non-definitive with 10 % Conformation by Definitive Methodology
_____Definitive, Comprehensive Statistical Error Determination was performed.
__X__Definitive, Comprehensive Statistical Error Determination was not performed.

Any qualifications to individual sample analysis results are detailed in the appropriate section above or appear under the comments section below. In cases where several QC criteria are out of specification, it may be appropriate to further qualify the data usability. The data reviewer must use professional judgment and express concerns and comments on the data validity for each specific data package.

Comments: Data as reported are valid.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

14. USABILITY OF DATA

A. These data are considered usable for the data use objectives stated in the *EPA EMERGENCY RESPONSE SECTION AND SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM QUALITY ASSURANCE SAMPLING PLAN FOR SOIL, WATER AND MISCELLANEOUS MATRIX SAMPLING, ANACONDA MINE POND REMOVAL SUPPORT, YERINGTON, NEVADA , SEPTEMBER 24, 2008 (QASP).*

The following data use objectives were indicated in the *QASP:*

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVELS TO DETERMINE IF ADDITIONAL EXCAVATION IS NEEDED.

TO PROVIDE CONTAMINATE INFORMATION TO ASSIST IN THE USEPA DECISION REGARDING ON-SITE TREATMENT.

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVEL TO DETERMINE IF TREATMENT IS COMPLETED AND/OR PROGRESSING.

THE DATA ARE USABLE FOR THE ABOVE OBJECTIVES.

B. These data meet quality objectives stated in the *QASP.*

AS INDICATED IN SECTION 2.4 OF THE QASP, THE INVESTIGATION WILL GENERATE BOTH SCREENING AND DEFINITIVE DATA AND TABLE E OF THE QASP OUTLINES THE DATA QUALITY INDICATOR GOALS APPLICABLE TO THE DEFINITIVE DATA QUALITY LEVEL. THE DATA IN THIS PACKAGE MEET THESE REQUIREMENTS.

15. DOCUMENTATION OF LABORATORY CORRECTIVE ACTION

Problem: No problems requiring corrective action were found.

Resolution: Not required.

Attached are copies of all data summary sheets, with data qualifiers indicated, and a copy of the chain of custody for the samples.

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273B
Project Number:	R08S96	**75 Hawthorne Street**	**Reported:** 10/16/08 09:48
Project:	Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809059-01									**Soil - Sampled: 09/27/08 13:20**
Sample ID: BTA-1									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,600		65	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	260	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*24.4*		*75 %*	*70-130%*	"	"	"	
Sample ID: BTA-1									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-02									**Soil - Sampled: 09/27/08 13:30**
Sample ID: BTA-2									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	3,200		63	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	250	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*26.0*		*82 %*	*70-130%*	"	"	"	
Sample ID: BTA-2									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-03									**Soil - Sampled: 09/27/08 13:40**
Sample ID: BTA-3									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	4,000	J, Q7 J	160	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U, J, Q7	640	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*21.6*		*67 %*	*70-130%*	"	"	"	
Sample ID: BTA-3									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-04									**Soil - Sampled: 09/27/08 13:50**
Sample ID: BTA-4									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	5,000	J, Q7 J	160	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U, J, Q7	650	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*19.1*		*59 %*	*70-130%*	"	"	"	
Sample ID: BTA-4									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0029	10/06/08	10/07/08	% calculation
Lab ID: 0809059-05									**Soil - Sampled: 09/27/08 13:35**
Sample ID: BTA-1002									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	3,500		64	mg/kg dry	B8J0018	10/03/08	10/07/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	250	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*24.3*		*76 %*	*70-130%*	"	"	"	
Sample ID: BTA-1002									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0029	10/06/08	10/07/08	% calculation

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273B
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/16/08 09:48
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8J0018 - 3545 ASE/PFE - TPH - Extractable										**Prepared: 10/03/08 Analyzed: 10/07/08**
										Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control
Blank (B8J0018-BLK1)										
TPH as Diesel	ND	U	5	mg/kg wet						
TPH as Motor Oil	ND	U	20	"						
Surrogate: Hexacosane	*4.43*			"	*5.00*		89	*70-130*		
LCS (B8J0018-BS1)										
TPH as Diesel	44.4		5	mg/kg wet	50.0		89	70-130		200
Surrogate: Hexacosane	*4.64*			"	*5.00*		93	*70-130*		
Matrix Spike (B8J0018-MS1)		**Source: 0809059-02RE1**								
TPH as Diesel	Not Reported	C2, Q10	63	mg/kg dry	315	3,160	NR	70-130		25
Surrogate: Hexacosane	*23.8*			"	*31.5*		76	*70-130*		
Matrix Spike Dup (B8J0018-MSD1)		**Source: 0809059-02RE1**								
TPH as Diesel	Not Reported	C2, Q10	64	mg/kg dry	319	3,160	NR	70-130	2	25
Surrogate: Hexacosane	*24.2*			"	*31.9*		76	*70-130*		
Batch B8J0029 - Solids, Dry Weight (Prep) - Solids, Dry Weight										**Prepared: 10/06/08 Analyzed: 10/07/08**
										Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Blank (B8J0029-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B8J0029-DUP1)		**Source: 0809059-01**								
% Solids	93		1	%		93			0	20

12/3/08

ENVIRONMENTAL PROTECTION AGENCY
Region 9 Laboratory

CHAIN OF CUSTODY RECORD

1337 S. 46th St., Bldg. 201
Richmond, CA 94804-4698

PROJ. NO.

PROJECT NAME: Anaconda Dried Pond

SAMPLERS: (Signature)

DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	Lucy TPH EPH Gel	REMARKS
9-27-08	1320	Sol			BTA-1	18-oz		
	1330				BTA-2			
	1340				BTA-3			
	1350				BTA-4			
	1335	↓	↓		BTA-1002	↓	↓	7 day TAT RA

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	9-29-08 1250				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Received for Laboratory by: (Signature)	Date / Time	Temp.	Seals Intact (Y/N)	Conditions / Remarks
	9/29/08 1250	5°C	Yes	Hand delivered

Distribution: Original Accompanies Shipment, Copy to Coordinator Field Files

TLOGG

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	**Location: Yerington, Nevada**
TDD Number: 09-08-07-005	**Project Number: 002693.2009.01RF**
Laboratory: EPA Region 9 Laboratory	**Lab Project Number: 0809060**
Sampling Dates: 9/25/08 & 9/26/08	**Sample Matrix: Soil**
Analytical Method: ***TPH as Diesel & MO EPA 8015M***	**Data Reviewer: Mindy Song**

REVIEW AND APPROVAL:

Data Reviewer: Mindy Song **Date:** 12/3/08
Technical QA Reviewer: Howard Edwards **Date:**
Project Manager: Howard Edwards **Date:**

SAMPLE IDENTIFICATION:

Sample No.	Sample I.D.	Laboratory I.D.
1	23-D	0809060-01
2	23-DD	0809060-02
3	19-SW	0809060-03
4	25-F	0809060-04
5	29-TP	0809060-05
6	25-E	0809060-06
7	22-A	0809060-07
8	22-B	0809060-08
9	17-NW	0809060-09
10	19-EW	0809060-10
11	25-ED	0809060-11
12	23-TP	0809060-12
13	23-C	0809060-13
14		
15		
16		
17		
18		
19		
20		

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA PACKAGE COMPLETENESS CHECKLIST:

Checklist Code:

- X — Included: no problems
- * — Included: problems noted in review
- O — Not Included and/or Not Available
- NR — Not Required
- RS — Provided As Re-submission

Case Narrative:

- X — Case Narrative present

Quality Control Summary Package:

- X — Data Summary sheets
- * — Matrix Spike/Spike Duplicate Recoveries
- X — Laboratory Control Sample Recoveries
- X — Method Blank Summaries
- X — Initial Calibration Data
- X — Continuing Calibration Data
- * — Surrogate Compound Recovery Summary
- NR — Internal Standard Area Summary

Sample and Blank Data Package Section

- X — Chromatograms
- X — Quantitation Reports

Raw QC Data Package Section

- X — Quantitation Reports for Standards, LCS, and MS/MSD
- X — List of Instrument Detection Limits
- X — Chain-of-Custody Records
- X — Sample Preparation and Analysis Run Logs

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA VALIDATION SUMMARY

The data were reviewed following procedures and limits specified in the EPA OSWER directive, *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (EPA/540/G-90/004, OSWER Directive 9360.4-01, dated April 1990).

Indicate with a YES or NO whether each item is acceptable without qualification:

1	Holding Times	YES
2	Instrument Performance Criteria	YES
3	Initial Calibrations	YES
4	Continuing Calibrations	YES
5	Laboratory Control Sample	YES
6	Matrix Spike/Matrix Spike Duplicate	YES
7	Blanks and Background Samples	YES
8	Surrogate Compounds	NO
9	Internal Standards	N/A
10	Duplicate Analyses	NO
11	Analyte Identification	YES
12	Analyte Quantitation	YES
13	Overall Assessment of Data	YES
14	Usability of Data	YES

Comments: Surrogate recoveries were within the control limits except sample 17-NW (61%) and 23-C (61%). Detected diesel results in 17-NW and 23-C were qualified as estimated (J) Sample 23-DD is a field duplicate of sample 23-D and RPD was greater than 35% in duplicate analysis. Detected diesel results in 23-D and 23-DD were qualified as estimated (J).
N/A: Not Applicable

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

1. HOLDING TIMES

___X___ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Samples were extracted and analyzed within required holding times except as noted under Comments. In addition, no problems were identified with regard to sample preservation or custody unless specified. For those samples analyzed outside holding time requirements, the detected results have been qualified as estimated (J), and the nondetected results have been qualified either as estimated (UJ) or rejected (R) based on the reviewer's judgment.

Water Samples: Purgeable analyses: 14 days (from collection) to analysis. Extractable analyses: 7 days (from collection) to extraction; 40 days (from extraction) to analysis. Soil or Other Matrices: Purgeable analyses: 14 days (from collection) to analysis. Extractable analyses:14 days (from collection) to extraction;40 days (from extraction) to analysis.

Comments: Analytical holding time was met.

2. INSTRUMENT PERFORMANCE CRITERIA

X	Raw data has been checked to verify that there is adequate resolution (>25%) between peaks of the standard compounds.
X	Raw data has been checked to verify that retention time windows are reported and that all standard compounds are within the windows.

Comments:

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

3. INITIAL CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, a 5-point initial calibration was run. In addition, average Relative Response Factor (RRF), and percent relative Standard Deviation (%RSD) values were within control limits (%RSD <= 20). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the low calibration level was not detected, the non-detected results are qualified (UJ).

Comments: TPH as diesel and motor oil standards were used and %RSD values were within the control limit.

4. CONTINUING CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, continuing calibrations were performed at the beginning and at the end of any group of samples and at least every 12 hours. In addition, Relative Response Factors (RRF), and Percent Difference (%D) values were within control limits (%D <= 15). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the %D is very high and indicates a severe loss of instrument sensitivity, the associated non-detected results may be qualified as estimated (UJ) or rejected (R) based on the professional judgment of the reviewer.

Comments: Diesel and motor oil standards were analyzed and percent difference values were within the control limit.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

5. LABORATORY CONTROL SAMPLE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Laboratory Control Samples Analyzed

Laboratory control sample recoveries are used for a qualitative indication of accuracy (bias) independent of matrix effects. LCS recovery limits should either be specified in the Sampling and Analysis Plan or can be established by the laboratory. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J).

Comments: LCS recovery was within the control limit.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Matrix Spike/Matrix Spike Duplicates Analyzed

Matrix spike and matrix spike duplicate recoveries are used for a qualitative indication of accuracy (bias) due to matrix effects. The RPD between the recoveries is used for a qualitative indication of precision. Spike recovery limits of 80% to 120% are specified in EPA/540/G-90/004. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). At the discretion of the reviewer, other limits may be used only if justification can be provided.

Comments: Sample 22-B was used for MS/MSD analysis and the recoveries were outside of control limit. Qualification was not necessary because the amount of diesel present in the parent sample was greater than four times amount spiked.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

7. BLANKS AND BACKGROUND SAMPLES

__X__ Acceptable
_____ Detection Limits Adjusted

The following blanks were analyzed:
__X__ Method (preparation) Blanks
_____ Field Blanks
_____ Instrument Blanks
_____ Rinsate Blanks
_____ Background Samples
_____ VOA Trip Blanks

Preparation (method) blanks were prepared for each batch of samples extracted. A preparation blank was analyzed after every continuing calibration standard, prior to sample analysis unless noted below. Any compound detected in the sample and also detected in any associated blank, must be qualified as non-detect (U) when the sample concentration is less than 5x the blank concentration.

Comments: No contamination was found in the method blank at reporting limit level.

8. SURROGATE COMPOUNDS

_____ Acceptable
__X__ Acceptable with qualification
_____ Unacceptable
_____ No surrogates analyzed

Surrogate compound recoveries for samples analyzed within a sample group must be within the limits specified in the method. If the surrogate recovery is between 10% and the lower limit, the associated detected results are qualified as estimated (J) and the non-detected results are qualified as estimated (UJ). If the surrogate recovery is <10%, the associated detected results are qualified as estimated (J) and the non-detected results are rejected (R). If the surrogate recovery is above the upper limit, the associated detected results are qualified as estimated (J). Surrogate recoveries which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms. If there are no limits specified in the method, laboratory limits based on historical performance may be used at the discretion of the reviewer.

Comments: Surrogate recoveries were within the control limits except sample 17-NW (61%) and 23-C (61%). Detected diesel results in 17-NW and 23-C were qualified as estimated (J)

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

9. INTERNAL STANDARDS

_____Acceptable
_____Acceptable with qualification
_____Unacceptable
__X__No internal standards analyzed

Internal Standard area counts for samples analyzed within a sample group must be within the range of 50% to 200% of the internal standard area for the continuing calibration. If the internal standard area is between 10% and 50% of this value, the associated detected results are qualified as estimated (J) and the nondetected results are qualified as estimated (UJ). If the internal standard area is <10% of the calibration area, both the detected and nondetected results are rejected (R). If the internal standard area is >200% of the calibration area, the associated detected results are qualified as estimated (J). Internal standards which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms.

Comments:

10. DUPLICATE ANALYSES

_____Acceptable
__X__Acceptable with qualification
_____Unacceptable
_____No Duplicates Analyzed

Type of duplicates analyzed:
__X__Field Duplicates
_____Laboratory Duplicates

Calculate the relative Percent Difference (RPD) between the members of duplicate pairs using the equation indicated below. Qualify the results as estimated (J) for any analyte whose RPD exceeds that specified in the Sampling and Analysis Plan.

$$RPD = \frac{2(Value\ 1 - Value\ 2)}{Value\ 1 + Value\ 2} \times 100\%$$

Comments:	23-D	23-DD	RPD (%)
Diesel, mg/kg	60	19	104*

*: RPD>35%
Detected diesel results in 23-D and 23-DD were qualified as estimated (J).

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

11. ANALYTE IDENTIFICATION

Verify that positive results have been confirmed on a dissimilar second column, that the sample chromatograms agree with the correct daily standard chromatograms, and that the retention time windows match.

Comments:

12. ANALYTE QUANTITATION

Confirm that analyte quantitation was performed correctly using the following formulas:

Purgeable analyses, water samples:

$$\text{ug/L} = \frac{\text{(analyte area)(amount of external standard, ng)}}{\text{(external standard area)(volume of water purged, mL)}}$$

Purgeable analyses, soil samples:

$$\text{ug/kg} = \frac{\text{(analyte area)(amount of external standard, ng)}}{\text{(external standard area)(weight of soil extracted, g)(fraction solids)}}$$

Extractable analyses, water samples:

$$\text{ug/L} = \frac{\text{(analyte area)(amount of external standard, ng)(total volume of extract, uL)}}{\text{(external standard area)(volume of sample extracted, mL)(injection volume, uL)}}$$

Extractable analyses, soil samples:

$$\text{ug/kg} = \frac{\text{(analyte area)(amount of external standard, ng)(total volume of extract, uL)}}{\text{(external standard area)(weight of sample extracted, g)(fraction solids)(injection volume, uL)}}$$

Comments: Sample 19-SW
Diesel: (1607582647/2.759E+6) (ug/mL) (10) (3mL/29.9g) (100/96) = 609 ug/g= 609 mg/kg.
Lab reported 610 mg/kg.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

13. OVERALL ASSESSMENT OF DATA

On the basis of this review, the following determination has been made with regard to the overall data usability for the specified level.

_____Acceptable
__X__Acceptable with Qualification
_____Rejected

Accepted data meet the minimum requirements for the following EPA data category:
_____ERS Screening
_____Non-definitive with 10 % Conformation by Definitive Methodology
_____Definitive, Comprehensive Statistical Error Determination was performed.
__X__Definitive, Comprehensive Statistical Error Determination was not performed.

Any qualifications to individual sample analysis results are detailed in the appropriate section above or appear under the comments section below. In cases where several QC criteria are out of specification, it may be appropriate to further qualify the data usability. The data reviewer must use professional judgment and express concerns and comments on the data validity for each specific data package.

Comments: Data as reported are valid.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

14. USABILITY OF DATA

A. These data are considered usable for the data use objectives stated in the *EPA EMERGENCY RESPONSE SECTION AND SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM QUALITY ASSURANCE SAMPLING PLAN FOR SOIL, WATER AND MISCELLANEOUS MATRIX SAMPLING, ANACONDA MINE POND REMOVAL SUPPORT, YERINGTON, NEVADA , SEPTEMBER 24, 2008 (QASP).*

The following data use objectives were indicated in the *QASP:*

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVELS TO DETERMINE IF ADDITIONAL EXCAVATION IS NEEDED.

TO PROVIDE CONTAMINATE INFORMATION TO ASSIST IN THE USEPA DECISION REGARDING ON-SITE TREATMENT.

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVEL TO DETERMINE IF TREATMENT IS COMPLETED AND/OR PROGRESSING.

THE DATA ARE USABLE FOR THE ABOVE OBJECTIVES.

B. These data meet quality objectives stated in the *QASP.*

AS INDICATED IN SECTION 2.4 OF THE QASP, THE INVESTIGATION WILL GENERATE BOTH SCREENING AND DEFINITIVE DATA AND TABLE E OF THE QASP OUTLINES THE DATA QUALITY INDICATOR GOALS APPLICABLE TO THE DEFINITIVE DATA QUALITY LEVEL. THE DATA IN THIS PACKAGE MEET THESE REQUIREMENTS.

15. DOCUMENTATION OF LABORATORY CORRECTIVE ACTION

Problem: No problems requiring corrective action were found.

Resolution: Not required.

Attached are copies of all data summary sheets, with data qualifiers indicated, and a copy of the chain of custody for the samples.

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273C
Project Number:	R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:55
Project:	Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809060-01									**Soil - Sampled: 09/26/08 14:22**
Sample ID: 23-D									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		60	J	5.5	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.47*		81 %	*70-130%*	"	"	"	
Sample ID: 23-D									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		91		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-02									**Soil - Sampled: 09/26/08 14:23**
Sample ID: 23-DD									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		19	J	6	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	24	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.28*		70 %	*70-130%*	"	"	"	
Sample ID: 23-DD									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		83		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-03									**Soil - Sampled: 09/26/08 09:26**
Sample ID: 19-SW									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	610		52	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.83*		73 %	*70-130%*	"	"	"	
Sample ID: 19-SW									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		96		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-04									**Soil - Sampled: 09/26/08 14:28**
Sample ID: 25-F									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		140		5.4	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.69*		86 %	*70-130%*	"	"	"	
Sample ID: 25-F									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-05									**Soil - Sampled: 09/25/08 09:30**
Sample ID: 29-TP									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		4.6	CI, J	5.6	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.97*		88 %	*70-130%*	"	"	"	
Sample ID: 29-TP									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		89		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-06									**Soil - Sampled: 09/26/08 14:25**
Sample ID: 25-E									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		85		5.3	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	Emergency Response Section	**SDG:** 08273C
Project Number:	R08S96	75 Hawthorne Street	**Reported:** 10/23/08 14:55
Project:	Anaconda Mine Old Raffinate Pond Sampling	San Francisco CA, 94105	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809060-06									**Soil - Sampled: 09/26/08 14:25**
Sample ID: 25-E									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
Surrogate: Hexacosane		*4.24*		79 %	*70-130%*	*B8J0004*	*10/01/08*	*10/08/08*	
Sample ID: 25-E									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-07									**Soil - Sampled: 09/26/08 14:15**
Sample ID: 22-A									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	600		56	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	22	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*4.69*		83 %	*70-130%*	"	"	"	
Sample ID: 22-A									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		90		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-08									**Soil - Sampled: 09/26/08 14:17**
Sample ID: 22-B									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,100		110	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		18	J	22	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*4.31*		80 %	*70-130%*	"	"	"	
Sample ID: 22-B									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-09									**Soil - Sampled: 09/26/08 14:45**
Sample ID: 17-NW									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	3,900	J, Q7 J	260	mg/kg dry	B8J0004	10/01/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	J, Q7, U	58	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.22*		61 %	*70-130%*	"	"	"	
Sample ID: 17-NW									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-10									**Soil - Sampled: 09/26/08 14:40**
Sample ID: 19-EW									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	5,700		540	mg/kg dry	B8J0004	10/01/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	86	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.90*		72 %	*70-130%*	"	"	"	
Sample ID: 19-EW									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-11									**Soil - Sampled: 09/26/08 14:26**
Sample ID: 25-ED									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		98		5.3	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.22*		78 %	*70-130%*	"	"	"	
Sample ID: 25-ED									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		94		1	%	B8J0057	10/13/08	10/14/08	% calculation

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273C
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:55
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809060-12									**Soil - Sampled: 09/25/08 09:25**
Sample ID: 23-TP									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		3.4	C1, F1, J	5.3	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.18*		79 %	*70-130%*	"	"	"	
Sample ID: 23-TP									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0057	10/13/08	10/14/08	% calculation
Lab ID: 0809060-13									**Soil - Sampled: 09/26/08 14:20**
Sample ID: 23-C									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	380	J, Q7 J	11	mg/kg dry	B8J0004	10/01/08	10/08/08	8015B/SOP385
TPH as Motor Oil		ND	Q7, U	22	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane		*3.31*		61 %	*70-130%*	"	"	"	
Sample ID: 23-C									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		93		1	%	B8J0057	10/13/08	10/14/08	% calculation

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08273C
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:55
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8J0004 - 3545 ASE/PFE - TPH - Extractable										
								Prepared: 10/01/08 Analyzed: 10/08/08		
								Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control		
Blank (B8J0004-BLK1)										
TPH as Diesel	ND	U	5	mg/kg wet						
TPH as Motor Oil	ND	U	20	"						
Surrogate: Hexacosane	*4.22*			"	*5.00*		84	*70-130*		
LCS (B8J0004-BS1)										
TPH as Diesel	50.1		5	mg/kg wet	50.0		100	70-130		200
Surrogate: Hexacosane	*4.80*			"	*5.00*		96	*70-130*		
Matrix Spike (B8J0004-MS1)		**Source: 0809060-08**								
TPH as Diesel	Not Reported	Q10	5.4	mg/kg dry	54.1	1,040	NR	70-130		25
Surrogate: Hexacosane	*4.07*			"	*5.41*		75	*70-130*		
Matrix Spike Dup (B8J0004-MSD1)		**Source: 0809060-08**								
TPH as Diesel	Not Reported	Q10	5.4	mg/kg dry	54.1	1,040	NR	70-130	0.07	25
Surrogate: Hexacosane	*4.48*			"	*5.41*		83	*70-130*		
Batch B8J0057 - Solids, Dry Weight (Prep) - Solids, Dry Weight								**Prepared: 10/13/08 Analyzed: 10/14/08**		
								Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control		
Blank (B8J0057-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B8J0057-DUP1)		**Source: 0809060-06**								
% Solids	94		1	%		94			0	20

12/31/08

ENVIRONMENTAL PROTECTION AGENCY
Region 9 Laboratory

CHAIN OF CUSTODY RECORD

1337 S. 46th St., Bldg. 201
Richmond, CA 94804-4698

PROJ. NO.: K08096
PROJECT NAME: Anaconda Pond
SAMPLERS: (Signature) Naura Gilbert

DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	STD TAT EPA COLS - Day
9-26-08	1422	S	X		23-D	1-8oz	
9-26-08	1423	S	X		23-DD		
9-26-08		S	X		BTA-4		
9-26-08	926	S	X		19-SW		
9-26-08	1428	S	X		25-F		
9-25-08	@930	S	X		29-TP		
9-26-08	1425	S	X		25-E		
9-26-08	1415	S	X		22 A		
9-26-08	1417	S	X		22 B		
9-26-08	1445	S	X		17-NW		
9-26-08	1440	S	X		14 ~~A-CO~~ EW		
9-26-08	1426	S	X		25 FD		
9-25-08	925	S	X		23 TP		
9/24/08	1420	S	X		23-C		

REMARKS: 2 week TAT AP

9/29/08 ADDED TO COC BY AJC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	9-29-08 1245				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Received for Laboratory by: (Signature)	Date / Time	Temp.	Seals Intact (Y/N)	Conditions / Remarks	
	9/29/08 1245	5°C	Yes	Hand delivered	

Distribution: Original Accompanies Shipment, Copy to Coordinator Field Files

9-1991

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF
Laboratory: EPA Region 9 Laboratory	Lab Project Number: 0810012
Sampling Dates: 10/6/08	Sample Matrix: Soil
Analytical Method: *TPH as Diesel & MO EPA 8015M*	Data Reviewer: Mindy Song

REVIEW AND APPROVAL:

Data Reviewer: Mindy Song Date: 12/3/08
Technical QA Reviewer: Howard Edwards Date: _____
Project Manager: Howard Edwards Date: _____

SAMPLE IDENTIFICATION:

Sample No.	Sample I.D.	Laboratory I.D.
1	VAS-1006-14'-01	0810012-01
2	VAS-1006-6'-02	0810012-02
3	VAS-1006-9'-03	0810012-03
4	VAS-1006-9'-04	0810012-04
5	VAS-1006-12'-05	0810012-05
6	VAS-1006-13'-06	0810012-06
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ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA PACKAGE COMPLETENESS CHECKLIST:

Checklist Code:

- X — Included: no problems
- * — Included: problems noted in review
- O — Not Included and/or Not Available
- NR — Not Required
- RS — Provided As Re-submission

Case Narrative:

- X — Case Narrative present

Quality Control Summary Package:

- X — Data Summary sheets
- * — Matrix Spike/Spike Duplicate Recoveries
- X — Laboratory Control Sample Recoveries
- X — Method Blank Summaries
- X — Initial Calibration Data
- X — Continuing Calibration Data
- * — Surrogate Compound Recovery Summary
- NR — Internal Standard Area Summary

Sample and Blank Data Package Section

- X — Chromatograms
- X — Quantitation Reports

Raw QC Data Package Section

- X — Quantitation Reports for Standards, LCS, and MS/MSD
- X — List of Instrument Detection Limits
- X — Chain-of-Custody Records
- X — Sample Preparation and Analysis Run Logs

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

DATA VALIDATION SUMMARY

The data were reviewed following procedures and limits specified in the EPA OSWER directive, *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (EPA/540/G-90/004, OSWER Directive 9360.4-01, dated April 1990).

Indicate with a YES or NO whether each item is acceptable without qualification:

1	Holding Times	YES
2	Instrument Performance Criteria	YES
3	Initial Calibrations	YES
4	Continuing Calibrations	YES
5	Laboratory Control Sample	YES
6	Matrix Spike/Matrix Spike Duplicate	YES
7	Blanks and Background Samples	YES
8	Surrogate Compounds	NO
9	Internal Standards	N/A
10	Duplicate Analyses	NA
11	Analyte Identification	YES
12	Analyte Quantitation	YES
13	Overall Assessment of Data	YES
14	Usability of Data	YES

Comments: Surrogate recoveries were within the control limits except sample VAS-1006-14'-01 (66%) and VAS-1006-13'-06 (67%). Detected diesel results in VAS-1006-14'-01 and VAS-1006-13'-06 were qualified as estimated (J)
N/A: Not Applicable NA: Not Analyzed

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

1. HOLDING TIMES

___X___ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Samples were extracted and analyzed within required holding times except as noted under Comments. In addition, no problems were identified with regard to sample preservation or custody unless specified. For those samples analyzed outside holding time requirements, the detected results have been qualified as estimated (J), and the nondetected results have been qualified either as estimated (UJ) or rejected (R) based on the reviewer's judgment.

Water Samples: Purgeable analyses: 14 days (from collection) to analysis. Extractable analyses: 7 days (from collection) to extraction; 40 days (from extraction) to analysis. Soil or Other Matrices: Purgeable analyses: 14 days (from collection) to analysis. Extractable analyses:14 days (from collection) to extraction;40 days (from extraction) to analysis.

Comments: Analytical holding time was met.

2. INSTRUMENT PERFORMANCE CRITERIA

X	Raw data has been checked to verify that there is adequate resolution (>25%) between peaks of the standard compounds.
X	Raw data has been checked to verify that retention time windows are reported and that all standard compounds are within the windows.

Comments:

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

3. INITIAL CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, a 5-point initial calibration was run. In addition, average Relative Response Factor (RRF), and percent relative Standard Deviation (%RSD) values were within control limits (%RSD <= 20). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the low calibration level was not detected, the non-detected results are qualified (UJ).

Comments: TPH as diesel and motor oil standards were used and %RSD values were within the control limit.

4. CONTINUING CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, continuing calibrations were performed at the beginning and at the end of any group of samples and at least every 12 hours. In addition, Relative Response Factors (RRF), and Percent Difference (%D) values were within control limits (%D <= 15). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the %D is very high and indicates a severe loss of instrument sensitivity, the associated non-detected results may be qualified as estimated (UJ) or rejected (R) based on the professional judgment of the reviewer.

Comments: Diesel and motor oil standards were analyzed and percent difference values were within the control limit.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

5. LABORATORY CONTROL SAMPLE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Laboratory Control Samples Analyzed

Laboratory control sample recoveries are used for a qualitative indication of accuracy (bias) independent of matrix effects. LCS recovery limits should either be specified in the Sampling and Analysis Plan or can be established by the laboratory. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J).

Comments: LCS recovery was within the control limit.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Matrix Spike/Matrix Spike Duplicates Analyzed

Matrix spike and matrix spike duplicate recoveries are used for a qualitative indication of accuracy (bias) due to matrix effects. The RPD between the recoveries is used for a qualitative indication of precision. Spike recovery limits of 80% to 120% are specified in EPA/540/G-90/004. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). At the discretion of the reviewer, other limits may be used only if justification can be provided.

Comments: Sample VAS-1006-13'-06 was used for MS/MSD analysis and the recoveries were outside of control limit. Qualification was not necessary because the amount of diesel present in the parent sample was greater than four times amount spiked.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

7. BLANKS AND BACKGROUND SAMPLES

__X__ Acceptable
_____ Detection Limits Adjusted

The following blanks were analyzed:
__X__ Method (preparation) Blanks
_____ Field Blanks
_____ Instrument Blanks
_____ Rinsate Blanks
_____ Background Samples
_____ VOA Trip Blanks

Preparation (method) blanks were prepared for each batch of samples extracted. A preparation blank was analyzed after every continuing calibration standard, prior to sample analysis unless noted below. Any compound detected in the sample and also detected in any associated blank, must be qualified as non-detect (U) when the sample concentration is less than 5x the blank concentration.

Comments: No contamination was found in the method blank at reporting limit level.

8. SURROGATE COMPOUNDS

_____ Acceptable
__X__ Acceptable with qualification
_____ Unacceptable
_____ No surrogates analyzed

Surrogate compound recoveries for samples analyzed within a sample group must be within the limits specified in the method. If the surrogate recovery is between 10% and the lower limit, the associated detected results are qualified as estimated (J) and the non-detected results are qualified as estimated (UJ). If the surrogate recovery is <10%, the associated detected results are qualified as estimated (J) and the non-detected results are rejected (R). If the surrogate recovery is above the upper limit, the associated detected results are qualified as estimated (J). Surrogate recoveries which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms. If there are no limits specified in the method, laboratory limits based on historical performance may be used at the discretion of the reviewer.

Comments: Surrogate recoveries were within the control limits except sample VAS-1006-14'-01 (66%) and VAS-1006-13'-06 (67%). Detected diesel results in VAS-1006-14'-01 and VAS-1006-13'-06 were qualified as estimated (J)

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

9. INTERNAL STANDARDS

_____Acceptable
_____Acceptable with qualification
_____Unacceptable
__X__No internal standards analyzed

Internal Standard area counts for samples analyzed within a sample group must be within the range of 50% to 200% of the internal standard area for the continuing calibration. If the internal standard area is between 10% and 50% of this value, the associated detected results are qualified as estimated (J) and the nondetected results are qualified as estimated (UJ). If the internal standard area is <10% of the calibration area, both the detected and nondetected results are rejected (R). If the internal standard area is >200% of the calibration area, the associated detected results are qualified as estimated (J). Internal standards which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms.

Comments:

10. DUPLICATE ANALYSES

_____Acceptable
_____Acceptable with qualification
_____Unacceptable
__X__No Duplicates Analyzed

Type of duplicates analyzed:
_____Field Duplicates
_____Laboratory Duplicates

Calculate the relative Percent Difference (RPD) between the members of duplicate pairs using the equation indicated below. Qualify the results as estimated (J) for any analyte whose RPD exceeds that specified in the Sampling and Analysis Plan.

$$RPD = \frac{2(Value\ 1 - Value\ 2)}{Value\ 1 + Value\ 2} \times 100\%$$

Comments:

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

11. ANALYTE IDENTIFICATION

Verify that positive results have been confirmed on a dissimilar second column, that the sample chromatograms agree with the correct daily standard chromatograms, and that the retention time windows match.

Comments:

12. ANALYTE QUANTITATION

Confirm that analyte quantitation was performed correctly using the following formulas:

Purgeable analyses, water samples:

ug/L = (analyte area)(amount of external standard, ng)
(external standard area)(volume of water purged, mL)

Purgeable analyses, soil samples:

ug/kg = (analyte area)(amount of external standard, ng)
(external standard area)(weight of soil extracted, g)(fraction solids)

Extractable analyses, water samples:

ug/L = (analyte area)(amount of external standard, ng)(total volume of extract, uL)
(external standard area)(volume of sample extracted, mL)(Injection volume, uL)

Extractable analyses, soil samples:

ug/kg = (analyte area)(amount of external standard, ng)(total volume of extract, uL)
(external standard area)(weight of sample extracted, g)(fraction solids)(injection volume, uL)

Comments: Sample VAS-1006-12'-05
Diesel: (5359456228/2.759E+6) (ug/mL) (100) (3mL/30g) (100/96) = 20235 ug/g= 20235 mg/kg.
Lab reported 20000 mg/kg.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

13. OVERALL ASSESSMENT OF DATA

On the basis of this review, the following determination has been made with regard to the overall data usability for the specified level.

_____Acceptable
__X__Acceptable with Qualification
_____Rejected

Accepted data meet the minimum requirements for the following EPA data category:
_____ERS Screening
_____Non-definitive with 10 % Conformation by Definitive Methodology
_____Definitive, Comprehensive Statistical Error Determination was performed.
__X__Definitive, Comprehensive Statistical Error Determination was not performed.

Any qualifications to individual sample analysis results are detailed in the appropriate section above or appear under the comments section below. In cases where several QC criteria are out of specification, it may be appropriate to further qualify the data usability. The data reviewer must use professional judgment and express concerns and comments on the data validity for each specific data package.

Comments: Data as reported are valid.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
TDD Number: 09-08-07-005	Project Number: 002693.2009.01RF

14. USABILITY OF DATA

A. These data are considered usable for the data use objectives stated in the *EPA EMERGENCY RESPONSE SECTION AND SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM QUALITY ASSURANCE SAMPLING PLAN FOR SOIL, WATER AND MISCELLANEOUS MATRIX SAMPLING, ANACONDA MINE POND REMOVAL SUPPORT, YERINGTON, NEVADA , SEPTEMBER 24, 2008 (QASP).*

The following data use objectives were indicated in the *QASP:*

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVELS TO DETERMINE IF ADDITIONAL EXCAVATION IS NEEDED.

TO PROVIDE CONTAMINATE INFORMATION TO ASSIST IN THE USEPA DECISION REGARDING ON-SITE TREATMENT.

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVEL TO DETERMINE IF TREATMENT IS COMPLETED AND/OR PROGRESSING.

THE DATA ARE USABLE FOR THE ABOVE OBJECTIVES.

B. These data meet quality objectives stated in the *QASP.*

AS INDICATED IN SECTION 2.4 OF THE QASP, THE INVESTIGATION WILL GENERATE BOTH SCREENING AND DEFINITIVE DATA AND TABLE E OF THE QASP OUTLINES THE DATA QUALITY INDICATOR GOALS APPLICABLE TO THE DEFINITIVE DATA QUALITY LEVEL. THE DATA IN THIS PACKAGE MEET THESE REQUIREMENTS.

15. DOCUMENTATION OF LABORATORY CORRECTIVE ACTION

Problem: No problems requiring corrective action were found.

Resolution: Not required.

Attached are copies of all data summary sheets, with data qualifiers indicated, and a copy of the chain of custody for the samples.

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08282A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/24/08 13:30
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0810012-01									**Soil - Sampled: 10/06/08 11:10**
Sample ID: VAS-1006-14'-01									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	13,000	J, Q7 J	530	mg/kg dry	B8J0041	10/08/08	10/13/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	J, Q7, U	210	"	"	"	10/09/08	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*3.46*		66 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-14'-01									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		95		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-02									**Soil - Sampled: 10/06/08 11:12**
Sample ID: VAS-1006-6'-02									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		4.1	C1, J	5.2	mg/kg dry	B8J0041	10/08/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	21	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.31*		83 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-6'-02									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		97		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-03									**Soil - Sampled: 10/06/08 11:14**
Sample ID: VAS-1006-9'-03									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel		3.3	C1, J	5.1	mg/kg dry	B8J0041	10/08/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	20	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*4.62*		90 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-9'-03									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		98		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-04									**Soil - Sampled: 10/06/08 11:15**
Sample ID: VAS-1006-9'-04									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE1	1,100		52	mg/kg dry	B8J0041	10/08/08	10/09/08	8015B/SOP385
TPH as Motor Oil		ND	U	62	"	"	"	10/10/08	8015B/SOP385
Surrogate: Hexacosane		*4.22*		81 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-9'-04									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		96		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-05									**Soil - Sampled: 10/06/08 11:17**
Sample ID: VAS-1006-12'-05									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	20,000		520	mg/kg dry	B8J0041	10/08/08	10/13/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	U	260	"	"	"	10/10/08	8015B/SOP385
Surrogate: Hexacosane	*RE1*	*3.65*		70 %	*70-130%*	"	"	"	
Sample ID: VAS-1006-12'-05									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		96		1	%	B8J0043	10/08/08	10/09/08	% calculation
Lab ID: 0810012-06									**Soil - Sampled: 10/06/08 11:20**
Sample ID: VAS-1006-13'-06									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
TPH as Diesel	RE2	6,900	J, Q7 J	260	mg/kg dry	B8J0041	10/08/08	10/13/08	8015B/SOP385
TPH as Motor Oil	RE1	ND	J, Q7, U	210	"	"	"	10/09/08	8015B/SOP385

12/3/08

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08282A
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/24/08 13:30
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0810012-06									**Soil - Sampled: 10/06/08 11:20**
Sample ID: VAS-1006-13'-06									**Extractable Petroleum Hydrocarbons by EPA Method 8015B**
Surrogate: Hexacosane	*RE1*	*3.46*		*67 %*	*70-130%*	*B8J0041*	*10/08/08*	*10/09/08*	
Sample ID: VAS-1006-13'-06									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		97		1	%	B8J0043	10/08/08	10/09/08	% calculation

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8J0041 - 3545 ASE/PFE - TPH - Extractable									**Prepared: 10/08/08 Analyzed: 10/09/08**	
									Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control	
Blank (B8J0041-BLK1)										
TPH as Diesel	ND	U	5	mg/kg wet						
TPH as Motor Oil	ND	U	20	"						
Surrogate: Hexacosane	*4.03*			"	*5.00*		81	*70-130*		
LCS (B8J0041-BS1)										
TPH as Diesel	49.2		5	mg/kg wet	50.0		98	70-130		200
Surrogate: Hexacosane	*4.77*			"	*5.00*		95	*70-130*		
Matrix Spike (B8J0041-MS1)		**Source: 0810012-05RE1**								
TPH as Diesel	Not Reported	Q10	52	mg/kg dry	52.1	17,900	NR	70-130		25
Surrogate: Hexacosane	*4.07*			"	*5.21*		78	*70-130*		
Matrix Spike Dup (B8J0041-MSD1)		**Source: 0810012-05RE1**								
TPH as Diesel	Not Reported	Q10	52	mg/kg dry	52.1	17,900	NR	70-130	0.1	25
Surrogate: Hexacosane	*4.28*			"	*5.21*		82	*70-130*		
Batch B8J0043 - Solids, Dry Weight (Prep) - Solids, Dry Weight									**Prepared: 10/08/08 Analyzed: 10/09/08**	
									Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control	
Blank (B8J0043-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B8J0043-DUP1)		**Source: 0810012-03**								
% Solids	98		1	%			98		0	20

12/3/08

ENVIRONMENTAL PROTECTION AGENCY
Region 9 Laboratory

CHAIN OF CUSTODY RECORD

1337 S. 46th St., Bldg. 201
Richmond, CA 94804-4698

PROJ. NO.	PROJECT NAME	NO. OF CONTAINERS	EPA 8015 Diesel	REMARKS
	ANACONDA		INCLUDE TAT	

SAMPLERS: (Signature)
LENNA COPE

DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	EPA 8015 Diesel	INCLUDE TAT	REMARKS
10/6/08	11:10	Soil		X	VAS-1006-14'-01	1	X	X	
10/6/08	11:12	Soil		X	VAS-1006-6'-02	1	X	X	
10/6/08	11:14	Soil		X	VAS-1006-9'-03	1	X	X	
10/6/08	11:15	Soil		X	VAS-1006-9'-04	1	X	X	
10/6/08	11:17	Soil		X	VAS-1006-12'-05	1	X	X	
10/6/08	11:20	Soil		X	VAS-1006-13'-06	1	X	X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Lenna Cope	10/7/08 12:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Received for Laboratory by: (Signature)	Date / Time	Temp.	Seals Intact (Y/N)	Conditions / Remarks	
	10/8/08 10:00	3°C			

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

3-1632

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

Laboratory: EPA Region 9 Laboratory	Lab Project Number: 0809051
Sampling Dates: 9/23/08	Sample Matrix: Liquid
Analytical Method: *PCBs by EPA 8082*	Data Reviewer: M. Song

REVIEW AND APPROVAL:

Data Reviewer: Mindy Song Date: 12/3/08
Technical QA Reviewer: Howard Edwards Date:
Project Manager: Howard Edwards Date:

SAMPLE IDENTIFICATION:

Sample No.	Sample I.D.	Laboratory I.D.
1	VA-2	0809051-01
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ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

DATA PACKAGE COMPLETENESS CHECKLIST:

Checklist Code:

- X Included: no problems
- * Included: problems noted in review
- O Not Included and/or Not Available
- NR Not Required
- RS Provided As Re-submission

Case Narrative:

- X Case Narrative present

Quality Control Summary Package:

- X Data Summary sheets
- X Matrix Spike/Spike Duplicate Recoveries
- X Laboratory Control Sample Recoveries
- X Method Blank Summaries
- X Initial Calibration Data
- X Continuing Calibration Data
- X Surrogate Compound Recovery Summary
- NR DDT and Endrin Degradation Check Data
- NR Internal Standard Area Summary

Sample and Blank Data Package Section

- X Chromatograms
- X Quantitation Reports

Raw QC Data Package Section

- X Quantitation Reports for Standards, LCS, and MS/MSD
- X List of Instrument Detection Limits
- X Chain-of-Custody Records
- X Sample Preparation and Analysis Run Logs

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

DATA VALIDATION SUMMARY

The data were reviewed following procedures and limits specified in the EPA OSWER directive, *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (EPA/540/G-90/004, OSWER Directive 9360.4-01, dated April 1990).

Indicate with a YES or NO whether each item is acceptable without qualification:

1	Holding Times	YES
2	Instrument Performance Criteria	YES
3	Initial Calibrations	YES
4	Continuing Calibrations	YES
5	Laboratory Control Sample	YES
6	Matrix Spike/Matrix Spike Duplicate	YES
7	Blanks and Background Samples	YES
8	Surrogate Compounds	YES
9	Internal Standards	N/A
10	Duplicate Analyses	YES
11	Analyte Identification	YES
12	Analyte Quantitation	YES
13	Overall Assessment of Data	YES
14	Usability of Data	YES

Comments: N/A: Not Applicable

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

1. HOLDING TIMES

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Samples were extracted and analyzed within required holding times except as noted under Comments. In addition, no problems were identified with regard to sample preservation or custody unless specified. For those samples analyzed outside holding time requirements, the detected results have been qualified as estimated (J), and the nondetected results have been qualified either as estimated (UJ) or rejected (R) based on the reviewer=s judgement.

Water Samples Extractable analyses: 7 days (from collection) to extraction; 40 days (from extraction) to analysis. Soil or Other Matrices: Extractable analyses: 14 days (from collection) to extraction; 40 days (from extraction) to analysis.

Comments: Analytical holding time was met.

2. INSTRUMENT PERFORMANCE CRITERIA

__N/A__ Raw data has been checked to verify that the DDT retention time is greater than 12 minutes and that there is adequate resolution (>25%) between peaks of the other standard compounds.

__X__ Raw data has been checked to verify that retention time windows are reported and that all standard compounds are within the windows.

__N/A__ Raw data has been checked to verify that the percent breakdown for DDT and endrin does not exceed 20% in the degradation check standard.

__X__ Raw data has been checked to verify that the percent difference in retention time for the surrogate in all standards and samples does not exceed 0.3% (capillary columns) or 1.5% (wide-bore capillary columns).

Comments:

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

3. INITIAL CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, a 5-point initial calibration was run. In addition, average Relative Response Factor (RRF), and percent relative Standard Deviation (%RSD) values were within control limits (%RSD <= 20). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the low calibration level was not detected, the nondetected results are qualified (UJ).

Comments: PCB 1016/1260 was used for an initial calibration and percent relative standard deviation values were within the control limits.

4. CONTINUING CALIBRATIONS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable

Unless flagged below, continuing calibrations were performed at the beginning and at the end of any group of samples and at least every 12 hours. In addition, Relative Response Factors (RRF), and Percent Difference (%D) values were within control limits (%D <= 15). For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). In cases where the %D is very high and indicates a severe loss of instrument sensitivity, the associated nondetected results may be qualified as estimated (UJ) or rejected (R) based on the professional judgement of the reviewer.

Comments: Percent Difference (%D) values were within control limits.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

5. LABORATORY CONTROL SAMPLE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Laboratory Control Samples Analyzed

Laboratory control sample recoveries are used for a qualitative indication of accuracy (bias) independent of matrix effects. LCS recovery limits should either be specified in the Sampling and Analysis Plan or can be established by the laboratory. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J).

Comments: All recoveries were within control limits.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Matrix Spike/Matrix Spike Duplicates Analyzed

Matrix spike and matrix spike duplicate recoveries are used for a qualitative indication of accuracy (bias) due to matrix effects. The RPD between the recoveries is used for a qualitative indication of precision. Spike recovery limits of 80% to 120% are specified in EPA/540/G-90/004. For analytes which exceeded these control limits, associated detected results are qualified as estimated (J). At the discretion of the reviewer, other limits may be used only if justification can be provided.

Comments: Sample VA-2 was used for MS and MSD. Recoveries of PCB 1016 and 1260 in MS and MSD were within the control limits.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

7. BLANKS AND BACKGROUND SAMPLES

__X__ Acceptable
_____ Detection Limits Adjusted

The following blanks were analyzed:
__X__ Method (preparation) Blanks
_____ Field Blanks
_____ Instrument Blanks
_____ Rinsate Blanks
_____ Background Samples
_____ VOA Trip Blanks

Preparation (method) blanks were prepared for each batch of samples extracted. A preparation blank was analyzed after every continuing calibration standard, prior to sample analysis unless noted below. Any compound detected in the sample and also detected in any associated blank, must be qualified as non-detect (U) when the sample concentration is less than 5x the blank concentration.

Comments: Method blank was free of contamination at the reporting limit level.

8. SURROGATE COMPOUNDS

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No surrogates analyzed

Surrogate compound recoveries for samples analyzed within a sample group must be within the limits specified in the method. If the surrogate recovery is between 10% and the lower limit, the associated detected results are qualified as estimated (J) and the nondetected results are qualified as estimated (UJ). If the surrogate recovery is <10%, the associated detected results are qualified as estimated (J) and the nondetected results are rejected (R). If the surrogate recovery is above the upper limit, the associated detected results are qualified as estimated (J). Surrogate recoveries which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms. If there are no limits specified in the method, laboratory limits based on historical performance may be used at the discretion of the reviewer.

Comments: All surrogate recoveries were within control limits.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

9. INTERNAL STANDARDS

_____ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
__X__ No internal standards analyzed

Internal Standard area counts for samples analyzed within a sample group must be within the range of 50% to 200% of the internal standard area for the continuing calibration. If the internal standard area is between 10% and 50% of this value, the associated detected results are qualified as estimated (J) and the non-detected results are qualified as estimated (UJ). If the internal standard area is <10% of the calibration area, both the detected and non-detected results are rejected (R). If the internal standard area is >200% of the calibration area, the associated detected results are qualified as estimated (J). Internal standards which exceeded these limits are noted below and the associated results are qualified on the attached sample report forms.

Comments: External standards were used.

10. DUPLICATE ANALYSES

__X__ Acceptable
_____ Acceptable with qualification
_____ Unacceptable
_____ No Duplicates Analyzed

Type of duplicates analyzed:
_____ Field Duplicates
__X__ Laboratory Duplicates

Calculate the relative Percent Difference (RPD) between the members of duplicate pairs using the equation indicated below. Qualify the results as estimated (J) for any analyte whose RPD exceeds that specified in the Sampling and Analysis Plan.

$$RPD = \frac{2(Value\ 1 - Value\ 2)}{Value\ 1 + Value\ 2} \times 100\%$$

Comments: RPDs of MS & MSD were less than 35%.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

11. ANALYTE IDENTIFICATION

Verify that positive results have been confirmed on a dissimilar second column, that the sample chromatograms agree with the correct daily standard chromatograms, and that the retention time windows match. When sample results are confirmed by a second column, the relative percent difference (RPD) between the two results is calculated. If the RPD is less than 40% and there is no evidence of chromatographic problems, the higher result is reported. If the RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgment of the reviewer. If there is no evidence of any chromatographic problems, the higher result is reported.

Comments: Not applicable.

12. ANALYTE QUANTITATION

Confirm that analyte quantitation was performed correctly using the following formulas:

Extractable analyses, water samples:

$$\text{ug/L} = \frac{(\text{analyte area})(\text{amount of external standard, ng})(\text{total volume of extract, uL})}{(\text{external standard area})(\text{volume of sample extracted, mL})(\text{injection volume, uL})}$$

Extractable analyses, soil samples:

$$\text{ug/kg} = \frac{(\text{analyte area})(\text{amount of external standard, ng})(\text{total volume of extract, uL})}{(\text{external standard area})(\text{weight of sample extracted, g})(\text{fraction solids})(\text{injection volume, uL})}$$

Comments: No PCBs were detected in the samples.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

13. OVERALL ASSESSMENT OF DATA

On the basis of this review, the following determination has been made with regard to the overall data usability for the specified level.

__X__ **Acceptable**
_____ **Acceptable with Qualification**
_____ **Rejected**

Accepted data meet the minimum requirements for the following EPA data category:
_____ **ERS Screening**
_____ **Non-definitive with 10 % Conformation by Definitive Methodology**
_____ **Definitive, Comprehensive Statistical Error Determination was performed.**
__X__ **Definitive, Comprehensive Statistical Error Determination was not performed.**

Any qualifications to individual sample analysis results are detailed in the appropriate section above or appear under the comments section below. In cases where several QC criteria are out of specification, it may be appropriate to further qualify the data usability. The data reviewer must use professional judgment and express concerns and comments on the data validity for each specific data package.

Comments: Data as reported are valid.

ANALYTICAL DATA REVIEW SUMMARY

Tier 2 Validation

Site Name: Anaconda Mine Pond Removal	Location: Yerington, Nevada
Project Number: 002693.2009.01RF	TDD No: 09-08-07-0005

14. USABILITY OF DATA

A. These data are considered usable for the data use objectives stated in the *EPA EMERGENCY RESPONSE SECTION AND SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM QUALITY ASSURANCE SAMPLING PLAN FOR SOIL, WATER AND MISCELLANEOUS MATRIX SAMPLING, ANACONDA MINE POND REMOVAL SUPPORT, YERINGTON, NEVADA , SEPTEMBER 24, 2008 (QASP).*

The following data use objectives were indicated in the *QASP:*

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVELS TO DETERMINE IF ADDITIONAL EXCAVATION IS NEEDED.

TO PROVIDE CONTAMINATE INFORMATION TO ASSIST IN THE USEPA DECISION REGARDING ON-SITE TREATMENT.

TO BE COMPARED WITH SITE-SPECIFIC ACTION LEVEL TO DETERMINE IF TREATMENT IS COMPLETED AND/OR PROGRESSING.

THE DATA ARE USABLE FOR THE ABOVE OBJECTIVES.

B. These data meet quality objectives stated in the *QASP.*

AS INDICATED IN SECTION 2.4 OF THE QASP, THE INVESTIGATION WILL GENERATE BOTH SCREENING AND DEFINITIVE DATA AND TABLE E OF THE QASP OUTLINES THE DATA QUALITY INDICATOR GOALS APPLICABLE TO THE DEFINITIVE DATA QUALITY LEVEL. THE DATA IN THIS PACKAGE MEET THESE REQUIREMENTS.

15. DOCUMENTATION OF LABORATORY CORRECTIVE ACTION

Problem: No problems requiring corrective action were found.

Resolution: Not required.

Attached are copies of all data summary sheets, with data (a qualifiers indicated, and a copy of the chain of custody for the samples.

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08269G
Project Number:	R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:11
Project:	Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0809051-01									**NAPL - Sampled: 09/23/08 10:30**
Sample ID: VA-2									**Polychlorinated Biphenyls by EPA Method 8082**
Aroclor 1016		ND	U	1,400	ug/kg	B8I0158	09/29/08	10/10/08	8082/SOP335
Aroclor 1221		ND	U	2,900	"	"	"	"	8082/SOP335
Aroclor 1232		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1242		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1248		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1254		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1260		ND	U	1,400	"	"	"	"	8082/SOP335
Aroclor 1262		ND	U	1,400	"	"	"	"	8082/SOP335
Surrogate: Tetrachloro-m-xylene	*REI*	*1,150*		80 %	*65-135%*	"	"	*10/10/08*	
Surrogate: Decachlorobiphenyl	*REI*	*1,170*		82 %	*80-130%*	"	"	"	

12/3/08

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Project Manager: Thomas Dunkelman	**Emergency Response Section**	**SDG:** 08269G
Project Number: R08S96	**75 Hawthorne Street**	**Reported:** 10/23/08 14:11
Project: Anaconda Mine Old Raffinate Pond Sampling	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B8I0158 - 3580A Waste Dilution - PCBs								**Prepared: 09/29/08 Analyzed: 10/10/08**		
								Polychlorinated Biphenyls by EPA Method 8082 - Quality Control		
Blank (B8I0158-BLK1)										
Aroclor 1016	ND	U	200	ug/kg						
Aroclor 1221	ND	U	400	"						
Aroclor 1232	ND	U	200	"						
Aroclor 1242	ND	U	200	"						
Aroclor 1248	ND	U	200	"						
Aroclor 1254	ND	U	200	"						
Aroclor 1260	ND	U	200	"						
Aroclor 1262	ND	U	200	"						
Surrogate: Tetrachloro-m-xylene	*222*			"	*200*		111	*65-135*		
Surrogate: Decachlorobiphenyl	*179*			"	*200*		89	*80-130*		
LCS (B8I0158-BS1)										
Aroclor-1016	659		200	ug/kg	500		132	65-135		200
Aroclor-1260	590		200	"	500		118	65-135		200
Surrogate: Tetrachloro-m-xylene	*238*			"	*200*		119	*65-135*		
Surrogate: Decachlorobiphenyl	*165*			"	*200*		83	*80-130*		
Matrix Spike (B8I0158-MS1)		**Source: 0809051-01**								
Aroclor 1016	3,580		1,800	ug/kg	4550	ND	79	65-135		20
Aroclor-1260	4,410		1,800	"	4550	ND	97	65-135		20
Surrogate: Tetrachloro-m-xylene	*1270*			"	*1820*		70	*65-135*		
Surrogate: Decachlorobiphenyl	*1240*			"	*1820*		68	*80-130*		
Matrix Spike Dup (B8I0158-MSD1)		**Source: 0809051-01**								
Aroclor-1016	3,880		1,700	ug/kg	4170	ND	93	65-135	15	20
Aroclor-1260	4,230		1,700	"	4170	ND	101	65-135	4	20
Surrogate: Tetrachloro-m-xylene	*1160*			"	*1670*		70	*65-135*		
Surrogate: Decachlorobiphenyl	*1300*			"	*1670*		78	*80-130*		

12/3/08

ENTAL PROTECTION AGENCY
boratory

CHAIN OF CUSTODY RECORD

1337 S. 46th St
Richmond, CA

O. | PROJECT NAME: Aranda Ponds

TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	2015 VOC	8260 VOC	8082 PCBs	REMARKS
1030	Liquid		X	VA-2	1	X	X	X	

	Date / Time			
by: (Signature)	9/25/08 1430	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Sign
by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Sign
Laboratory by: (Signature)	Date / Time: 9/25/08 1430	Temp: 23°C	Seals Intact (Y/N): No, on BOTTLE O.K.	Conditions / Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

9-